APPENDIX A

BACKGROUND ASSUMPTIONS FOR TECHNICAL ANALYSIS

Draft Environmental Impact Statement
Allocation of Water Supply and
Long-Term Contract Execution
Central Arizona Project

Central Arizona Project Allocation
Administrative Draft Environmental Impact Statement
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APPENDIX A BACKGROUND ASSUMPTIONS

A.I. INTRODUCTION

In order to describe and evaluate the anticipated environmental consequences of implementing any of the action alternatives considered in the draft Environmental Impact Statement (EIS), it is first necessary to identify questions whose "answers" are critical to performing the necessary impact analyses. These questions include key issues such as, "What would water use patterns be in Arizona for the next fifty years?" "Would farmers be able to afford Central Arizona Project (CAP) water and how much of it would be available?" "How would municipal and industrial (M&I) entities meet their projected populations' water demands?" and "What would the Indians do with the water proposed to be allocated to them?" Since "answers" for these types of questions are not available, it falls to the technical and professional staff to develop assumptions about what are the most likely outcomes based upon past, current and projected practices.

Fundamental to the development of the background assumptions used in the impact analyses conducted for the "Allocation of Water Supply and Expected Long-Term Contract Execution – CAP EIS" is an understanding of the conditions and policies that exist and are expected to exist throughout the project period (2001-2051). These conditions and policies determine, to a great extent, the distribution and use of CAP water supplies by the three primary CAP water use sectors. The assumptions are primarily related to the availability and pricing of CAP water for the project period. They are referred to as "background assumptions" because they help determine each affected entity's water budget, which, in turn, drives the impact analyses. The assumptions were developed based upon input from Navigant Consulting, Inc., the Bureau of Reclamation (Reclamation) Phoenix Area and Lower Colorado Regional offices, the Department of the Interior Solicitor's Office, Arizona Department of Water Resources (ADWR), Central Arizona Water Conservation District (CAWCD), Central Arizona Groundwater Replenishment District (CAGRD), Arizona Water Banking Authority (AWBA), and others.

This appendix identifies the background assumptions that were developed to establish the inputs for the impact analyses as well as for the groundwater and socioeconomic evaluations. The assumptions are based on existing water management policy, available information, and discussions with representatives of water users and involved institutions and entities. Assumptions made for each particular impact analysis are noted in the appropriate technical appendices. This appendix documents only the background assumptions common to all analyses.

Every analysis contains assumptions through which the accuracy of the results should be viewed, and this Draft EIS is no exception. It is likely that the assumptions involved in the Draft EIS may be as important to the outcome of the impact analyses as the analyses themselves. The analysis of the potential impacts to the NIA sector is a good example. If the assumption is made that competitively-priced CAP water would be available in today's volumes and prices to non-Indian agriculture (NIA) for the entire 50-year project period, very different impacts would emerge than if the assumption is made that CAP water for NIA is not available due to increased demand by other users in the early years.

Careful consideration was given to the ramifications of CAP water availability to the various sectors. In developing the assumptions, an effort was made to forecast what policies would be put in place under each alternative evaluated in the Draft EIS, based upon a thorough analysis of currently available information. Sensitivity was also given to avoid skewing the impacts in any sector through the background assumptions. In particular, great care was taken in developing the assumptions for the No Action Alternative in an effort to provide a fair baseline against which the impacts of the other alternatives would be evaluated.

It should be noted that the future may likely diverge from the Draft EIS background assumption projections, and it is entirely possible other actions would occur. These other actions could include the adoption of a wheeling policy for CAP, settlement of additional Indian water right claims, and other actions that cannot be predicted. They are not included in the Draft EIS analysis, as their outcomes and timing would be pure speculation. While it is likely the future would not look exactly like any of the projections made in this Draft EIS, this analysis reflects the most reasonably expected future scenarios, based upon information available at the time of this analysis.

The assumptions are consistent with the existing legal and institutional constraints that include the following:

- Federal Reclamation Law
  - Act of June 17, 1902, as amended and supplemented;
  - Boulder Canyon Project Act of 1928 (Public Law[PL] 70-642);
  - Reclamation Project Act of 1939, as amended; and
  - Colorado River Basin Project Act of 1968 (PL 90-537).
- Indian Water Rights Settlement Acts
  - Southern Arizona Water Rights Settlement Act of 1982 (PL 97-293);
  - Ak-Chin Indian Community Water Rights Settlement Act of 1984 (as amended) (PL 98-530);
  - Salt River Pima-Maricopa Indian Community (SRPMIC) Water Rights Settlement Act of 1988 (PL 100-512);
  - Fort McDowell Indian Community (FMIC) Water Rights Settlement Act of 1990 (PL 101-628);
  - San Carlos (SC) Apache Tribe Water Rights Settlement Act of 1992 (as amended) (PL 102-575); and
  - Yavapai-Prescott Indian Tribe Water Rights Settlement Act of 1994 (PL 103-434).
- Secretary of the Interior Decisions and Actions
  - 1980 Indian Contracts;
  - 1983 Record of Decision (ROD) CAP Allocation;
  - 1988 CAP Master Repayment Contract; and
  - 1992 Federal Register (FR) Notice (NIA Allocation)

- Arizona State Law and Regulations

  - Groundwater Management Act (GMA);
  - Assured Water Supply (AWS) Rules;
  - CAGRD Laws;
  - AWBA Laws; and
  - Recharge Permit / Accounting Laws.

The key assumptions are listed below. Detailed discussions of each category of assumptions are included after the list of key assumptions. Descriptions of the assumptions per each alternative are included following the discussion. All tables and figures follow the text at the end of the appendix.

A.II. LIST OF KEY ASSUMPTIONS

Following are the key assumptions made for the Draft EIS impacts analysis.

A.II.a. CAP Diversions and Available Colorado River Water – Assumptions regarding the volume of water delivered by CAP from 2001 through 2051 are based upon analyses of the 1996 Reclamation CAP water supply study. Regardless of annual delivery volume, the conveyance / system losses are assumed to be 75 thousand acre-feet (kaf). The amounts that are diverted and delivered would be as follows:

- Normal Year (2001-2043):

CAP priority water diversion	1,418 kaf
Pre-1968 higher priority Colorado River water diversion	72 kaf
Total Diversions	1,490 kaf
System losses	- 75 kaf
Total Deliveries	1,415 kaf

- Shortage year (2044-2051):

CAP priority water diversion	928 kaf
Pre-1968 higher priority Colorado River water diversion	+ 72 kaf
Total Diversions	1,000 kaf
System losses	- 75 kaf
Total Deliveries	925 kaf

- For purposes of this Draft EIS, it has been assumed there would be shortage conditions from 2044 through 2051. For a more detailed explanation of how availability of Colorado River water was estimated, see the discussion on “Shortage” that follows on page A-7.

- Absent the Settlement Alternative, priority in case of shortage would be pursuant to the Secretary of the Interior's (Secretary's) water allocation decisions, the Master Repayment Contract and contracts for delivery of water to Indian Reservations.

- A separate water priority schedule would be applied under the Settlement Alternative per a negotiated agreement.

- Surplus Colorado River water may be available for diversion to CAP through the study period. For purposes of this study, however, no assumptions were made regarding the potential distribution of CAP water above 1,415 kaf. Although it is likely surplus water would be recharged directly through the AWBA or utilized by M&I or Indian entities absent an understanding of the distribution of this water, the potential environmental impacts from recharging surplus water cannot be addressed. Further, although surplus conditions may occur in the early years of the study period, limited demand for water during this time-frame may make surplus deliveries largely irrelevant to the impact analysis.

A.II.b. Water Priorities

- **First:** 72 kaf of Colorado River water (Yuma Mesa Division [YMD] and WMIDD water).

- **Second:** Indian CAP contracts (less 25 percent Gila River Indian Community (GRIC) and 10 percent other Indian agriculture) pro-rata with M&I CAP subcontracts less than 510 kaf.

- **Third:** Indian agriculture contracts (up to 25 percent of GRIC and up to ten percent of other Indian agriculture).

- **Fourth:** M&I CAP subcontracts above 510 kaf.

- **Fifth:** NIA CAP contracts (does not include "letter agreements" or relinquished contracts). NIA CAP contracts retain their priority upon transfer or assignment.

- **Sixth:** "Excess Water"

  - For Settlement Alternative:

    - 6A-Ag Pool
    - 6B-AWBA Recharge Pool (for in-state purposes)
    - 6C-Full Price Excess – CAGRD
    - 6D-Any use except interstate storage
    - 6E-AWBA Recharge Pool (for interstate storage purposes)

  - For No Action and Non-Settlement Alternatives:

    - 6A-Full Price Excess – CAGRD

- 6B-Ag Pool / Incentive Recharge share depending on alternative
- Other residual "Excess" Water Pools

A.II.c. Indian Development Schedule and Water Use

- The United States. would fund Indian development projects to the level necessary in order to achieve full development prior to 2044.
- The Settlement Alternative would provide accelerated funding through settlement.
- Indian CAP water use would take place on Reservation lands in the alternatives, except for leased water (shown in Table A-1).
- Absent the Settlement Alternative, Indian CAP water costs include variable (energy) operation and maintenance (O&M) plus fixed O&M. Current cost is $54 per acre-foot (af). Appendix M contains a comprehensive discussion of CAWCD pricing policies.
- In the Settlement Alternative, Indian CAP water costs include variable O&M. Current cost is $26 per af.

A.II.d. M&I Development Schedule and Water Use

- Salt River Project (SRP) supplies would meet water demands within the SRP service area; they cannot be used outside the SRP service area.
- Demands outside the SRP service area would be met by CAP water, CAGRD, effluent reuse, groundwater, and other supplies.
- 1997 Department of Economic Security (DES) population projections for 2000 through 2050 have been used to approximate the population from 2001 through 2051.
- M&I demands have been based on ADWR water conservation targets (gallons per capita per day [gpcd]) outlined in current state management guidelines (Third Management Plan, [TMP] [ADWR, 1999]), shown in Table A-9.
- An additional seven percent has been added to the ADWR gpcd water conservation targets to account for lost and unaccounted water[1].
- M&I water costs would include variable and fixed O&M, and capital repayment. Current cost is $102 per af.

[1] For more detailed explanation regarding this additional seven percent, see page A-11.

- M&I entities would build necessary facilities (treatment plants, etc.) in order to use their full allocations and entitlements.

A.II.e. M&I Leases

No new leases of Indian CAP water (that would require additional Federal approval) would be authorized absent the Settlement Alternative. The leases are listed in Table A-1.

A.II.f. CAGRD and Interim Contracts

- CAGRD would be able to meet components of M&I demands up to 200 kaf.

- CAGRD would pay full price for excess water, including variable O&M, fixed O&M, and capital repayment. Current cost is $102 per af.

- Replenishment would include the cost of water ($102 per af) plus the cost of recharge, program administration, and other fees and costs for which CAGRD currently charges approximately $188 per af to its members.

- CAGRD could receive a limited allocation for CAP water and would purchase the balance of its requirements from excess water.

- CAGRD would have first priority of excess water under No Action and Non-Settlement Alternatives. In the Settlement Alternative, prior to 2030, the CAGRD would have third priority of Excess Water, behind the Ag Pool and AWBA Recharge Pool.

- Unless currently enrolled, membership in CAGRD would not be the preferred option for M&I entities to meet their AWS[2] obligations.

A.II.g. Recharge Pool

- As provided pursuant to existing state law, AWBA would fund recharge of excess CAP water through 2016, including in-lieu water. AWBA in-lieu deliveries would be based on projected 2000 deliveries and/or facility capacities as shown in Table A-2.

- From 2017 through 2051, water available for recharge would be recharged directly by individual M&I entities or in lieu with SRP, Maricopa Water District (MWD), or Cortaro-Marana Irrigation District (CMID) or other districts outside of Pinal County.

- Incentive recharge would be no less than 400 kaf from 2001 through 2016, absent the Settlement Alternative. Recharge would follow the pattern outlined in Table A-2.

[2] In order to subdivide and sell land within an Active Management Area (AMA), the land must be shown to have an AWS for 100 years.

- Absent the Settlement Alternative, recharge would have second priority to the Ag Pool from 2017 through 2051. However, CAWCD would reduce the Ag Pool to zero by the end of the repayment period in 2046.

- In the Settlement Alternative, CAP would commit to an Ag Pool through 2030, with recharge having lower priority. After 2030, the Recharge and Ag Pool would share priority of the remaining "Excess Water" pool. Others could also participate, including the Tribes and the United States.

- Incentive recharge costs (applicable 2001–2016) would include variable O&M (Energy 2[3]), plus 10 percent of fixed O&M, plus a "contribution for lost revenue." Current cost is $44 per af.

- Water for recharge after 2016 would be at full cost including fixed plus variable operation, maintenance and replacement (OM&R). This rate would be $102 per af on the year 2000 rate schedule.

- Under the Settlement Alternative the Recharge Pool is actually split into the following categories: AWBA recharge for in-state purposes, non-AWBA recharge, and AWBA recharge for interstate storage purposes. For ease of computation, these are shown together as the Recharge Pool.

A.II.h. Ag Pool

- Only one pool would be available after 2004, at current pool one[4] pricing for all alternatives. The rate would be the year 2001 Energy Rate 1, currently targeted to be $26 per af.

- The Ag Pool would be distributed to the NIA entities based on the percentages as shown in Table A-11.

- In the Settlement Alternative, CAWCD would commit to providing water to the Ag Pool through 2030. After 2030, the Recharge and Ag Pool share priority of the remaining "Excess Water" Pool. Others could also participate.

- Absent settlement, the Ag Pool would be linearly reduced from 2017 levels to zero by 2046 (end of the repayment period).

A.II.i. NIA Sub-Contractors Under Non-Settlement Alternative 3A

- Under Non-Settlement Alternative 3A, allocations would be made to Central Arizona Irrigation and Drainage District (CAIDD), Chandler Heights Citrus Irrigation District

[3] Energy Rate 2 applies only to AWBA and other recharge deliveries. Please see Appendix M for more details.

[4] Currently CAWCD has a structure of three Ag Pools, with varying pricing and eligibility requirements. Please see Appendix M for more details.

(CHCID), Maricopa-Stanfield Irrigation & Drainage District (MSIDD), New Magma Irrigation and Drainage District (NMIDD), Roosevelt Irrigation District (RID), and San Carlos Irrigation & Drainage District (SCIDD) as shown on Table A-12.

A.III. DISCUSSION OF KEY ASSUMPTIONS

A.III.a. CAP Diversions

The normal year diversions available to CAP are assumed to be 1,490 kaf. This is composed of 72 kaf of high priority water from Wellton-Mohawk Irrigation and Drainage District (WMIDD) and the YMD plus 1,418 kaf of CAP (1968) priority water. The normal year diversions are based on the agreement among the parties--for discussion and negotiation purposes only--that deliveries are 1,415 kaf and losses are 75 kaf.

A.III.b. Shortage

Reclamation's latest water supply projections for the CAP were completed in 1996. This analysis consisted of 17 traces of water supply projections, each starting in a different historical hydrological year and continuing for 50 years of analyses. The average of all 17 traces was then used for cost allocation purposes and to evaluate general impacts of water deliveries to various sectors. Although appropriate for these purposes, it was determined that this type of 17-trace average analysis would not be the most appropriate for this study. Therefore, a single trace representative water supply was developed. In developing this single trace, all 17 traces were examined for both the number of shortage years and when the shortages occurred. Four traces contained no shortage years, one trace contained 22 years of shortage, and the average shortage years among all traces was 8.4 years. The shortage years, in those traces that had shortages, usually occur at the end of the 50 years of analysis. Therefore, the representative trace developed for use in this study contains eight years of shortage occurring in the last eight years of the study period.

To determine if the representative water supply is reasonable, the Colorado River Simulation System (CRSS)[5] runs (currently used by Reclamation for study purposes) were evaluated. The probability of shortage conditions on the river was found to be approximately 30 percent, occurring in year 2043/2044. The probability of shortage gradually increases annually prior to 2043, and it appears that after 2043/2044, the increase in the probability of shortage increases at a greater rate. The representative water supply is believed to be consistent with current Reclamation CRSS model runs and the 1996 water supply analyses For the purposes of this Draft EIS, normal year water supplies are assumed to be available from 2001 through 2043, and shortage years would occur from 2044 through 2051, as shown on Figure A-1.

As discussed briefly in Chapter I, CAP water is assigned a priority of Indian, M&I, or NIA. NIA-water has the lowest priority and is reduced to zero prior to any reductions to Indian or M&I priority water during shortage. For the 50-year study period of the Draft EIS Reclamation studies show that an average rate of shortage occurrence is approximately 17 percent, with a range of zero to 44 percent. Beyond the 50-year study period in 2055, Reclamation studies

[5] CRSS-a computer model used by Reclamation for long-range studies of Colorado River basin operations.

predict the probability of shortage to increase to approximately 50 to 55 percent and to continue at that level thereafter.

To fully understand potential impacts to CAP water users during shortage conditions, other factors must be considered. Shortages are based on assumptions regarding Upper Basin demands and projections of future watershed runoff. Furthermore, during shortage years, impacts to specific entities receiving CAP diversions must include an assessment of the extent of the demand for Arizona's higher priority Colorado River water; this is beyond the scope of this Draft EIS.

A.III.c. Surplus

For the purpose of this Draft EIS, diversions above 1,490,000 af are not analyzed. Although surplus Colorado River water may be available in some years, such as the year 2000, the potential uses of surplus water and resulting environmental impacts cannot be addressed. Further, although surplus conditions may occur in the early years of the study period, limited demand for water during this time-frame may make surplus deliveries largely irrelevant to the impact analysis.

A.III.d. CAP Deliveries

CAP deliveries are assumed to be 1,415 kaf in normal years and 925 kaf in shortage years. Losses are assumed to be 75 kaf regardless of normal, surplus, or shortage conditions. Normal year deliveries are composed of 68.4 kaf of WMIDD and YMD Colorado River water and 1,346.6 kaf of CAP water. Shortage year deliveries are composed of 68.4 kaf of WMIDD and YMD Colorado River water plus 856.6 kaf of CAP water.

A.III.e. Water Priority

For purposes of this Draft EIS, it is assumed CAP water would be delivered based upon the following priorities (from highest to lowest):

First - YMD and WMIDD water provided by the Ak-Chin and SRPMIC settlement acts. This water is Colorado River water with priority higher than CAP.

Second - Indian and M&I users share priority pro rata. The Indian water does not include 25 percent (43,275 acre-feet annually [afa]) of the 1982 GRIC allocation (173,100 afa), nor 10 percent (8,230 afa) of the other Indian allocations (82,300 afa). The M&I water does not include M&I uses above 510,000 afa per the 1980 Indian contracts.

Third - The portion of Indian allocations not included in priority 2 (25 percent of GRIC plus 10 percent of other Indian entitlements) is in priority 3.

Fourth - M&I contracts above 510,000 afa are fourth priority.

Fifth - NIA contracts are the fifth priority. Water that is assigned, relinquished or transferred would retain its priority when reallocated.

Sixth - Unordered or contracted but unordered (by the contract holder) water in a normal year is termed "Excess Water" for the purposes of this Draft EIS. It is available to full price users such as interim direct delivery users and CAGRD first (6A) except under the Settlement Alternative, where the Ag Pool and AWBA in-state Recharge Pool would have priority over the CAGRD until 2030. Depending on the alternative, the remaining "Excess Water" Pool would be divided between the Ag Pool and the Recharge Pool. This distribution is different for the Settlement Alternative and the other alternatives.

The distribution of water that would occur under each alternative is shown in Tables A-3 through A-8 and Figures A-4 through A-9[6]. In addition, the Settlement Alternative may have a different priority schedule to accommodate negotiated settlement. For the purposes of analysis in this Draft EIS, the shortage schedule for the Settlement Alternative is based on defining three classes of CAP water (Colorado River maintains priority higher than CAP water): Indian / M&I, NIA, and Excess Water. The Indian users and non-Indian M&I users would share shortages when deliveries are between 1,009,079 and 853,100 af pro rata (36.4 percent and 63.6 percent respectively). The NIA and Excess Water classes would maintain their current priority status.

A.III.f. Indian Development Schedule and Water Use

It is assumed that Indian users would purchase and use their full CAP allocation on Reservation lands, except water authorized for lease for off-Reservation uses, in a build-up

[6] Figures A-2 and A-3 depict the Settlement Alternative and No Action Alternative. CAP water distribution without the 2043-2051 shortage. Figures A-4 and A-5 depict the same alternatives with shortage and these are the distributions analyzed in the draft EIS.

schedule reaching maximum use before shortages are experienced. The authorized leases and leases contemplated in the Settlement Alternative are listed in Table A-1. It is assumed the United States would continue to provide funding for Indian water development projects on Tribal lands to the extent necessary to fully use the CAP water allocated to Indian users. These assumptions are based on solicited input from the Indian communities, anticipated Federal funding levels for Indian projects, amounts of CAP water contractually available, and input from Indian project specialists from the Bureau of Indian Affairs (BIA) and Reclamation.

The Settlement Alternative includes an accelerated build-out of on-Reservation delivery systems to accommodate Indian uses. This reflects accelerated funding for Indian projects contemplated in the proposed settlement agreement.

The cost of CAP water for Indian uses is assumed to be consistent with current CAWCD policies such that Federal users would pay the variable OM&R plus fixed OM&R. At present, Indian water is approximately $54 per af. It is contemplated in the Settlement Alternative that the United States would provide the fixed OM&R component so that Indian users would pay only the variable OM&R rate, currently $26 per af. Indian build-out schedules for on-Reservation uses are shown in Figure A-10.

A.III.g. M&I Development Schedules and Water Use

Reclamation received recommendations from ADWR in a letter to the Secretary dated January 20, 2000, regarding which M&I entities should receive 65,647 afa of uncontracted M&I priority CAP water. Allocation of currently uncontracted M&I priority water under the Settlement Alternative and Non-Settlement Alternative 1 would be consistent with these recommendations as would the allocation of the 71,815 afa of uncontracted NIA priority water under Non-Settlement Alternative 3B. These M&I water providers are listed in Table A-9. The M&I related impact analyses in this Draft EIS include only these entities.

M&I entities in the AMAs must be granted 100-year AWS designations (or certificates) by ADWR in order to legally subdivide and sell land. In order to have their AWS applications approved by ADWR, M&I entities must meet stringent criteria including the proof of physically and legally available water. Supplies that count toward an AWS include, among others, CAP subcontracts, Indian leases, and CAGRD membership. Purchase of CAP water through an interim contract or the Recharge Pool would not be sufficient because there is not a 100-year commitment of its availability. M&I entities do and are expected to continue to purchase water from the Recharge Pool and store water to support demonstration of an AWS.

It is assumed that M&I water users in the Phoenix area would use CAP water to satisfy only water demands outside of the SRP service area. This is based on ADWR data that show sufficient SRP supplies are available to meet M&I demands within the SRP service area.

The M&I development schedules are based on the DES 1997 population projections for 2000 through 2050. Based upon a review of existing population projection data currently available, DES 1997 population projections for 2000 through 2050 were determined to provide a sound basis for approximating the population for the project period, 2001 through 2051.

M&I water uses are based on projections of population and water use rates. Water use rates are typically expressed as gpcd. To calculate the water demand, the population projection is multiplied by the water use rate, and available non-CAP supplies are subtracted from the demand:

CAP M&I Entity Demand = {[Population Projection] * [Use Rate]} – {Available Non-CAP Water Supplies}

The water use rates used in this Draft EIS are from the ADWR TMPs. The TMPs provide water use targets for large municipal water providers. By statute, these providers are required to make conservation efforts to achieve these targets. By using these targets, it is assumed the M&I entities would meet their water conservation targets as outlined by the TMPs by 2010. The use rates are held constant through the study period. While most M&I entities currently experience use rates higher than those listed in the TMP, they may be required by the GMA to decrease their use rates even further in the future through the Fourth and Fifth Management Plans. Therefore, using the current TMP use rates may actually overstate demand. For purposes of this Draft EIS, the use rates have been increased by seven percent[7] of the TMP target so that lost or unaccounted water is included.

M&I water demand in the CAP service area is shown in Table A-9. By 2051, M&I water use of entities receiving an allocation of water, excluding the SRP service area, is estimated to be approximately 1.0 million acre-feet annually (mafa). It is assumed that entities not included in the allocation would have sufficient supplies to meet M&I demand from existing supplies, including their 1983 CAP allocations. The M&I users included in the Draft EIS are shown in Table A-10 with their 2051 demands, existing and proposed allocations, other non-CAP supplies, and assumed effluent and CAGRD supplies.

The non-CAP allocation supplies were derived from each entity's AWS application and water resource master plans (where available). It is assumed that each entity would construct facilities necessary to fully use their CAP allocations. In addition, the effluent use is assumed to remain constant, consistent with their AWS applications. It is also assumed that use of CAGRD would not be the preferred supply of water. Consistent with statements made by CAGRD staff in CAGRD workshops of December 1999 and January 2000, this Draft EIS would assume that CAGRD membership would be used only to meet the last increment of demand unmet by CAP or other sources. This is due to the high cost of CAGRD membership and the requirement of physical availability of groundwater for most members.

It is assumed that M&I CAP water costs would continue consistent with CAWCD pricing policy.

A.III.h. M&I Leases of Indian Water

It is assumed Indian water entitlements leased to M&I users would be used to the extent they are authorized by existing water rights settlements and are currently under contract or in final stages of contract negotiations. The leases are summarized in Table A-1. It is assumed that,

[7] The current range for lost and unaccounted water is five to 10 percent. Seven percent was chosen in recognition of water users' increasing efforts to minimize lost and unaccounted water.

absent settlement, no additional CAP water allocated to Indian users would be leased for off-Reservation use. Entering into additional leases would require additional future Federal actions, and would be pure speculation as to the quantity and parties involved.

A.III.i. CAGRD and Interim Contracts

CAGRD and interim contracts (e.g., for temporary construction water purposes) are full price users of Excess Water, and for that reason, it is assumed these users would have first priority to the Excess Water Pool under the No Action and Non-Settlement Alternatives. Under the Settlement Alternative, the CAGRD would have a lower priority then the Ag Pool and AWBA Recharge Pool (for in-state purposes) until 2030. After 2030, it is assumed that the CAGRD would have top priority of Excess Water. Interim contracts are assumed to continue at current levels so long as Excess Water is available. In 1998, interim contract deliveries amounted to less than 5,000 afa.

It is assumed the CAGRD would be able to meet M&I water demands, unmet by CAP or other water supplies available in their service areas, to the extent that groundwater is physically available or limited volumes of direct delivery are legally allowed. This is consistent with the statutory purpose and intent outlined in the establishment of the CAGRD. It should be noted that the other available supplies do not include non-Project water "wheeled" through the CAP system, such as Harquahala groundwater. At present, CAWCD does not have an approved wheeling policy, nor does it have the Federal authorization and approval that would allow wheeling of such supplies.

It is assumed that the CAGRD would pay full price for CAP water. This price includes fixed OM&R, variable OM&R, and capital repayment component. In addition, replenishment costs would include recharge fees, administration, and other fees. Currently, CAGRD members pay approximately $188 per af for replenishment. Finally, it is also assumed CAGRD membership would not be the preferred solution for M&I users to meet their water demands, and CAGRD could acquire only a limited CAP allocation within the project period.

A.III.j. Recharge Pool

The Recharge Pool is supplied by Excess Water. The size of the Recharge Pool is directly related to the commitment of CAWCD to provide water to the CAGRD and the Ag Pool. Key assumptions relate to the distribution of Excess Water between the Ag and Recharge Pools. Absent settlement, CAWCD has a financial interest in keeping some volume of Ag Pool as NIA deliveries to reduce the interest-bearing portion of CAWCD's repayment obligation to the United States. But also, absent settlement, M&I entities would have access to significantly less CAP supplies which would allow them to continue to keep their AWS status. In view of these competing interests, the background assumptions reflect an accommodation of both factors.

It is anticipated the CAWCD would make water available and AWBA would continue to provide recharge water through its in-lieu program to Pinal County Irrigation Districts (IDs) through 2016 at levels consistent with current recharge volumes (see Table A-2) and current AWBA policy, as described in its annual report for 2000. After 2016, the funding for the AWBA would sunset under current Arizona State law. It is assumed that M&I entities would continue

to recharge directly or through in-lieu programs with SRP, MWD or CMID (i.e., not in Pinal County), based on current descriptions of AWBA policy (see AWBA's December meeting notes).

Absent settlement, it is assumed that the AWBA and M&I entities would recharge no less than 400 thousand acre-feet annually (kafa) through 2016. This is consistent with the stated goals of the AWBA (see AWBA study commission report). After that time, it is assumed the Recharge Pool would share priority with the Ag Pool through 2051 to the extent that CAWCD commits to providing water to the Ag Pool. However, it is assumed that CAWCD would linearly reduce the Ag Pool from the volume in 2017 to zero in 2046 (the end of the repayment period). Based on the existing Master Contract between CAWCD and the United States, delivery of Ag water provides a reduction in the interest bearing component of the CAP for repayment purposes. Absent settlement, it is assumed that CAWCD would continue to provide water to the Ag Pool to reduce CAP repayment obligations. This is consistent with CAWCD's 10-year forward pricing policy.

In the Settlement Alternative, CAWCD would commit to availability of Ag Pool water through 2030 and may utilize a staged drawdown of the Ag Pool as shown in Table A-3. It is assumed that the Ag Pool would take priority over the Recharge Pool through 2030. After 2030, the two pools would be of equal volume and share priority in the Excess Water Pool.

A.III.k. Ag Pool

For purposes of this Draft EIS, the Ag Pool would be supplied by Excess Water. With or without settlement, it is assumed the Ag Pool program would continue into the future. However, it is expected that after 2003, only one Ag Pool would continue forward. Water would be priced at Energy Rate 1 only. For 2004, the published advisory rate is $35 per af (CAWCD, January 14, 2000).

Under the Settlement Alternative, there would be only one Ag Pool, as described in the September 23, 1999 CAWCD memorandum, *Excess Water Pools and Pricing 2004-2030*. It is assumed it would initially (in 2004) have a supply, as available, of 400,000 afa, which would decline to 225,000 af in year 2030 (see Table A-3). It is assumed that after 2030, the Ag Pool would equally share the remaining Excess Water with the Recharge Pool.

Absent the Settlement Alternative, it is assumed CAWCD would provide water as available to the Ag Pool while keeping the Recharge Pool (AWBA and other recharge activities) at no less than 400 kaf through 2016. Prior to 2016, when supplies to the Excess Water Pool are greater than 800 kaf, the water supply would be shared between ag and recharge. Below 800 kaf, it is assumed that recharge would take the first 400 kaf and ag would receive the remaining supply. It should be noted that through 2016, NIA water users are assumed to receive in-lieu water consistent with current trends. After 2016, it is assumed that CAWCD would linearly reduce the Ag Pool so that by the end of the repayment period, year 2046, the Ag Pool would be zero. This reduction is shown in Tables A-3 through A-8. This assumption is consistent with

CAWCD's current policy of supplying ag water through two-party letter agreements[8] to reduce its interest obligation to the United States.

It is assumed that the Ag Pool would be distributed to the NIA entities based on either their CAP-eligible acreage (Settlement Alternative) or their CAWCD Ag Pool percentage "allocation" (Non-Settlement Alternatives). The NIA entities and these percentages are listed in Table A-11.

NIA entities have three sources of CAP water: Ag Pool water; in-lieu water, and, under Non-Settlement Alternative 3A, subcontacted water. Ag Pool water is competitively priced with groundwater pumping. In-lieu water is the amount of CAP water an entity uses "in-lieu" of pumping groundwater and is priced by the banking recharging entities. An entity must use all of its Ag Pool water before it can participate in the in-lieu program.

A.III.l. Contracted NIA Water

Under Non-Settlement Alternative 3, subcontracts for the currently uncontracted 71,815 afa NIA-priority water would be offered, in accordance with the SRPMIC Water Rights Settlement Act of 1988 (PL 100-512). Reclamation initiated consultation regarding the distribution of this water in a December 1, 1999 letter to ADWR. In the absence of input from ADWR, Table A-12 was developed, which distributes the water to the entities proposed for this allocation in the 1992 relocation decision 57 FR 4470. Several entities, such as Farmers Investment Company (FICO), declined the allocation and several others, such as the Arizona State Land Department (ASLD) leasee Pichacho Pecans, are no longer farming. These entities were removed from consideration and the water re-distributed based on CAP eligible acres, with an adjustment for NMIDD resulting from their 1983 allocation relinquishment during bankruptcy proceedings.

An economic analysis of the NIA entities' ability to subcontract for the water was considered to be inappropriate as it is possible that other entities would contribute to allow the NIA subcontracts to occur. M&I entities in Pinal County could consider it in their interest to do so in order to secure the long-term CAP M&I conversion rights to that water. This concept is not without precedent as M&I interests in the CAP three-county area agreed to the subsidized Ag Pool structure during the NIA financial difficulties around 1993 as a mechanism to keeping CAP repayment costs down.

As it is also possible that the NIA entities would decline these subcontracts, Non-Settlement Alternative 3 is evaluated with two outcomes. Under analysis 3A, the subcontracts are offered to and accepted and used by the NIA entities as shown on Table A-12. This acceptance also implies that the CAP water could be delivered. For example, SCIDD would line their canals.

Under analysis 3B, the subcontracts are offered to, but declined by, the NIA entities. The Secretary would allow the state to recommend subsequent allocations of this water. As the 65,647 afa of M&I priority water is not offered to the M&I sector under this Alternative, it is assumed that the 71,815 afa of NIA-priority water would be allocated to the M&I sector in the same pattern as the 65,647 afa would have been. Furthermore, it is assumed that the M&I

[8] Excess water assumptions in the draft EIS differ from positions taken by the United States in CAWCD v. U.S. litigation; however, they are generally consistent with CAWCD's practices between 1993 and 2000.

allocation recipients would directly use 65,647 afa of the 71,815 afa and recharge the balance in an effort to firm it closer to M&I priority.

A.III.m. NIA Entities

Initially, the Draft EIS planned to focus on seven CAP NIA subcontractors listed below:

- MSIDD
- CAIDD
- NMIDD
- Queen Creek Irrigation District (QCID)
- CHCID
- San Tan Irrigation District (STID), and
- Tonopah Irrigation District (TID)

These districts were included in the impact analyses because their NIA allocations are to be relinquished in the Settlement Alternative. Two additional districts were added to the study because they may receive NIA allocations under one of the alternatives contemplated in the federal action: SCIDD, and RID.

A.IV. ALTERNATIVES IN THE DRAFT EIS

Using full CAP supplies (normal year), the water supplies have been distributed in terms of priority category, volume and timing. The distribution of CAP water would be influenced by the estimates of Indian development schedules and M&I water demand projections. The full CAP water distributions are shown for the Settlement Alternative and No Action Alternative in Figures A-2 and A-3. These graphs show the distribution of a full CAP water supply for the study period. The distribution of available CAP water (which includes shortage year deliveries from 2044 through 2051) is shown for each alternative in Figure A-4 through A-9. The distribution of water supplies was modified for the period when shortages are imposed in 2044 through 2051.

This section traces how the key assumptions interplay in each alternative. Tables A-13 through 16 summarize some of the key assumptions made across the alternatives. Key assumptions to all alternatives are the following:

- Normal year deliveries of 1,415 kafa for 2001 through 2043
- Surplus flows may occur, but are not included in the Draft EIS analysis

- Shortage year deliveries of 925 kafa from 2044 through 2051.

A.IV.a. No Action Alternative and Non-Settlement Alternatives 1, 2, and 3

The No Action Alternative is defined as the continuation of the status quo for 50 years into the future. No new Federal actions or changes in existing water management policies or laws would be implemented. All uncertainty that exists today continues to exist in the future. The No Action Alternative represents a baseline against which the Settlement Alternative and the Non-Settlement Alternatives may be compared. The No Action Alternative does not represent a prediction of future events absent this Federal action but is a continuation of the present conditions. It provides a baseline against which to measure the impacts of the other four alternatives.

The No Action Alternative includes the following:

- No new CAP allocations / contracts
- No additional Indian water rights settlements
- No litigation is resolved
- No additional Federal actions (e.g., no wheeling policy for the CAP, no new CAP contracts to Indian or non-Indians)

Non-Settlement Alternatives 1, 2, and 3 operate under the same background assumptions as the No Action Alternative and differ only in the CAP water allocations that define the alternatives.

A.IV.a.1. Key Assumptions

- Indian development and water use
  - Indian on-Reservation water use would reach a maximum of 331,326 afa.
  - Indian water costs would be $54 per af.
  - Indian water development projects would be funded and constructed.

  Build-out would occur in 2026, which reflects completion of the GRIC and Tohono O'odham Nation (TON) projects.

- Ag Pool
  - Ag Pool pricing after 2003 would be equal to Energy Rate 1.
  - After 2016, Ag Pool would be reduced to zero by 2046 (absent shortage).
  - Ag Pool distributed based on CAWCD Ag Pool "Allocation" percentage.

- Recharge Pool

  - AWBA funding sunsets in 2017.
  - AWBA and M&I entities would recharge no less than 400 kafa from 2001 through 2016.
  - From 2017 through 2051, M&I entities would recharge directly or in lieu with adjacent agricultural operations such as SRP, MWD, and CMID (i.e., not in Pinal County).
  - After 2017, M&I entities would pay full cost for recharge water.
  - Recharge would share priority with the Ag Pool after 2017 to the extent that CAWCD provides water to the Ag Pool. However, CAWCD would reduce the Ag Pool to zero by 2046.

- M&I Development and Uses / M&I Leases - No additional exchanges or leases of Indian water would be available.

Alternatives 1, 2, and 3 operate under the same background assumptions as the No Action Alternative and differ only in the CAP water allocations that define the alternatives.

A.IV.b. Settlement Alternative

The Settlement Alternative is the alternative under which a settlement is successfully negotiated. As such, it contains many unique features including the following:

- NIA

  - Voluntary relinquishment of CAP subcontracts would occur.
  - A degree of Reclamation 9(d) debt relief would be provided.
  - A degree of Reclamation Reform Act (RRA) relief would be provided.
  - CAWCD would commit to continue the Ag Pool structure through 2030.
  - Ag Pool distributed based on CAP eligible acreage.

- Indian Tribes

  - Final water rights settlement for the GRIC would occur.
  - Increased CAP allocation for the GRIC and TONs would occur.
  - Mandatory leases of approximately 70,000 afa to the M&I sector as part of the GRIC settlement would be made.
  - Groundwater pumping agreements would be implemented.
  - Funding for the GRIC to increase the rate of agricultural development would occur.
  - Pool of water reserved for future Federal purposes would be established.

- M&I Entities

  - Allocation of 65,647 afa would be completed.

- Fixed repayment schedule would be established.
- Indian leases would be executed.

- Excess Water – Water for environmental purposes would potentially be made available.

- Pool of NIA-Priority Water Reserved for M&I and/or NIA Use-A pool of 95,263 afa of NIA-priority water is reserved for M&I and/or NIA use. It would be distributed to users in a process to be determined later. As the distribution of this water is currently unknown, it is treated as Excess Water for the study period.

Tables A-13 through A-16 summarize some of the background assumptions across the alternatives.

APPENDIX A

TABLES

TABLE A-1
CAP Allocation Draft EIS
SETTLEMENT ALTERNATIVE INDIAN LEASES BY ALTERNATIVE

Settlement Alternative Leases

Tribal Entity	Priority	Volume	Uses	Recipient
Ak Chin	Colorado River	10,000	Lease	Del Webb
FMIC	Indian	4,300	Lease	City of Phoenix
GRIC	Indian	41,000	Lease	7 Maricopa County cities
GRIC	Indian	32,500	Exchange	Mesa/Chandler effluent exchange
GRIC	M&I	17,000	Lease	ASARCO
GRIC	Indian	12,000	Lease	Phelps Dodge
SC Apache Tribe	Indian	12,500	Lease	City of Scottsdale
SC Apache Tribe	M&I	3,480	Lease	Unspecified
SC Apache Tribe	M&I	14,000	Lease	Phelps Dodge
SRPMIC	NIA	5,000	Exchange	from Rooselvelt Water Conservation
				District (RWCD) to 7 Maricopa County cities
SRPMIC	Colorado River	20,900	Exchange	Maricopa County cities for groundwater (SRP)
SRPMIC	Indian	13,300	Lease	City of Phoenix
Yavapai Prescott	Indian	500	Transfer	City of Scottsdale
TOTAL		186,480		

No Action (and Non-Settlement Alternatives 1 - 3) Leases

Tribal Entity	Priority	Volume	Uses	Recipient
Ak Chin	Colorado River	10,000	Lease	Del Webb
FMIC	Indian	4,300	Lease	City of Phoenix
SC Apache Tribe	Indian	12,500	Lease	City of Scottsdale
SC Apache Tribe	M&I	3,480	Lease	Unspecified
SC Apache Tribe	M&I	14,000	Lease	Phelps Dodge
SRPMIC	NIA	5,000	Exchange	from RWCD to 7 Maricopa County cities
SRPMIC	Colorado River	20,900	Exchange	Maricopa County cities for groundwater (SRP)
SRPMIC	Indian	13,300	Lease	City of Phoenix
Yavapai Prescott	Indian	500	Transfer	City of Scottsdale
TOTAL		83,980		

TABLE A-2
CAP Allocation Draft EIS
Projected Direct and In-Lieu Recharge Pattern, 2001 - 2051

TYPE	ENTITY	LOCATION	CAPACITY	Projected Annual Recharge Pattern 2001-2016 AMOUNT(af)[b]	Projected Annual Recharge Pattern Post 2016 AMOUNT(af)
DIRECT					
	FUTURE WESTSIDE	PHOENIX AMA	50,000	0	50,000
	GRUSP*	PHOENIX AMA	200,000	70,000	70,000
	AGUA FRIA	PHOENIX AMA	100,000	100,000	100,000
	AVRA VALLEY	TUCSON AMA	11,000	11,000	11,000
	CAVSARP*	TUCSON AMA	60,000	15,000	60,000
	PIMA MINE	TUCSON AMA	23,000	10,000	23,000
	LOWER SANTA CRUZ	TUCSON AMA	30,000	9,000	30,000
SUB-TOTAL			424,000	215,000	344,000
IN-LIEU					
	CHCID	PHOENIX AMA	0	0	0
	MWD	PHOENIX AMA	40,000	18,800	20,000
	NMIDD	PHOENIX AMA	54,000	34,000	0
	QCID	PHOENIX AMA	28,000	11,000	0
	RWCD	PHOENIX AMA	100,000	20,000	20,000
	SRP	PHOENIX AMA	200,000	22,000	22,000
	TID	PHOENIX AMA	15,000	4,000	4,000
	CAIDD[a]	PINAL AMA	110,000	15,100	0
	HIDD*[a]	PINAL AMA	55,000	46,200	0
	MSIDD[a]	PINAL AMA	120,000	14,220	0
	Kai Farms	TUCSON AMA	11,231	8,000	8,000
	CMID	TUCSON AMA	20,000	9,000	9,000
	Bing K. Wong Farms	TUCSON AMA	16,615	7,000	7,000
SUB-TOTAL			769,846	209,320	90,000
TOTAL				424,320	434,000

NOTES:
* Granite Reef Underground Storage Project
Central Avra Valley Storage and Recovery Project
Hohokam Irrigation and Drainage District
a) Based on projected AWBA 2000 deliveries
b) Based on 1998 deliveries and facility capacities.

TABLE A-3
CAP Allocation Draft EIS
SETTLEMENT ALTERNATIVE
DISTRIBUTIION OF CAP SUPPLY

					EXCESS WATER				
Year	INDIAN	M&I	M&I LEASE	NIA PRIORITY INDIAN USE	AG POOL	CAGRD	RECHARGE POOL	TOTAL DELIVERIES	Milestones
2001	65,000	203,000	92,700	0	550,000	17,635	486,665	1,415,000	
2002	73,500	211,171	112,980	0	547,000	18,539	451,811	1,415,000	
2003	77,800	219,341	112,980	0	530,000	19,609	455,270	1,415,000	
2004	**78,800**	**227,512**	**112,980**	**0**	**513,000**	20,793	**461,914**	**1,415,000**	**Onset of 1 Price Ag Pool**
2005	79,800	235,683	112,980	0	497,000	21,978	467,559	1,415,000	
2006	151,000	243,854	153,980	2,500	400,000	23,162	440,504	1,415,000	
2007	171,465	252,024	156,147	5,200	400,000	24,347	405,817	1,415,000	
2008	200,265	260,195	158,313	25,200	400,000	25,531	345,496	1,415,000	
2009	226,093	268,366	160,480	35,200	400,000	26,715	298,146	1,415,000	
2010	232,093	276,537	162,647	45,200	400,000	27,900	270,624	1,415,000	
2011	244,193	284,707	164,813	55,200	400,000	29,537	236,550	1,415,000	
2012	249,355	292,878	166,980	65,200	400,000	31,223	209,364	1,415,000	
2013	253,017	301,049	169,147	75,200	400,000	32,955	183,633	1,415,000	
2014	255,680	309,220	171,313	85,200	400,000	34,687	158,900	1,415,000	
2015	256,342	317,390	173,480	95,200	400,000	36,419	136,169	1,415,000	
2016	257,004	325,561	175,647	110,200	400,000	38,151	108,438	1,415,000	
2017	**257,666**	**333,732**	**177,813**	**125,200**	**400,000**	39,883	**80,706**	**1,415,000**	**AWBA Funding Ends**
2018	258,328	341,902	179,980	140,200	400,000	41,615	52,975	1,415,000	
2019	258,989	350,073	182,147	145,800	300,000	43,601	134,390	1,415,000	
2020	259,653	358,244	184,313	148,800	300,000	45,667	118,322	1,415,000	
2021	260,315	366,415	186,480	148,800	300,000	47,734	105,257	1,415,000	
2022	260,977	374,585	186,480	148,800	300,000	49,216	94,942	1,415,000	
2023	261,639	382,756	186,480	148,800	300,000	50,698	84,627	1,415,000	
2024	262,302	390,927	186,480	148,800	300,000	52,994	73,498	1,415,000	
2025	262,964	399,098	186,480	148,800	300,000	55,769	61,889	1,415,000	
2026	263,626	407,268	186,480	148,800	225,000	58,551	125,274	1,415,000	
2027	263,626	415,439	186,480	148,800	225,000	60,669	114,986	1,415,000	
2028	263,626	423,610	186,480	148,800	225,000	62,822	104,662	1,415,000	
2029	263,626	431,780	186,480	148,800	225,000	64,990	94,324	1,415,000	
2030	**263,626**	**439,951**	**186,480**	**148,800**	**225,000**	67,158	**83,985**	**1,415,000**	**End of CAP Ag Pool Commitment**
2031	263,626	448,122	186,480	148,800	149,323	69,326	149,323	1,415,000	
2032	263,626	456,293	186,480	148,800	144,207	71,388	144,207	1,415,000	
2033	263,626	464,463	186,480	148,800	139,090	73,450	139,090	1,415,000	
2034	263,626	472,634	186,480	148,800	133,974	75,512	133,974	1,415,000	
2035	263,626	480,805	186,480	148,800	128,858	77,574	128,858	1,415,000	
2036	263,626	488,976	186,480	148,800	123,741	79,636	123,741	1,415,000	
2037	263,626	497,146	186,480	148,800	118,565	81,817	118,565	1,415,000	
2038	263,626	505,317	186,480	148,800	113,212	84,353	113,212	1,415,000	
2039	263,626	513,488	186,480	148,800	106,756	89,094	106,756	1,415,000	
2040	263,626	521,659	186,480	148,800	100,050	94,336	100,050	1,415,000	
2041	263,626	529,829	186,480	148,800	93,210	99,845	93,210	1,415,000	
2042	263,626	538,000	186,480	148,800	85,955	106,183	85,955	1,415,000	
2043	263,626	549,000	186,480	148,800	77,286	112,521	77,286	1,415,000	
2044	**235,026**	**514,825**	**175,149**	**0**	**0**	**0**	**0**	**925,000**	**Onset of Shortage**
2045	235,026	514,825	175,149	0	0	0	0	925,000	
2046	**235,026**	**514,825**	**175,149**	**0**	**0**	**0**	**0**	**925,000**	**End of Repayment Period**
2047	235,026	514,825	175,149	0	0	0	0	925,000	
2048	235,026	514,825	175,149	0	0	0	0	925,000	
2049	235,026	514,825	175,149	0	0	0	0	925,000	
2050	235,026	514,825	175,149	0	0	0	0	925,000	
2051	**235,026**	**514,825**	**175,149**	**0**	**0**	**0**	**0**	**925,000**	**End of Study Period**
Total	11,839,716	20,228,600	8,772,052	4,581,900	12,576,228	2,285,579	7,960,924	68,245,000	

COMPROMISE SHORTAGE SCHEME FOR THE PURPOSE OF SETTLEMENT
1. Colorado River water
2. Pro rata of Indian (36.4% of supply) and M&I (63.6% of supply)
  - GRIC absorbs Indian shortage when available supplies are between 853,100 and 1,009,079 af
  - Other Indian users and GRIC share Indian shortage between 827,100 and 853,100 af
  - Traditional Reclamation shortage applies when available supplies are below 827,100 af.
5. NIA water
6. "Excess Water"
priority within excess water prior to 2030 = 1. Ag Pool, 2. Recharge Pool (AWBA), 3. CAGRD
priority within excess water after 2030 = 1. CAGRD, 2. Recharge Pool, 3. Ag Pool

Shortage reductions (year 2043 - 2050)
Indian priority water is reduced to 311,802 af (reduction of 28,759 af).
M&I priority water is reduced to 514,825 af (reduction of 93,881 af).
5,000 afa from RWCD NIA to cities (SRPMIC settlement) from M&I lease column.
18,600 afa from RWCD NIA to GRIC from Indian column.
148,800 afa from Indian NIA column.
All Excess Water reduced to 0.

TABLE A-4
CAP Allocation Draft EIS
NO ACTION ALTERNATIVE
DISTRIBUTION OF CAP SUPPLY

					EXCESS WATER				
Year	INDIAN	M&I	M&I LEASE	NIA PRIORITY INDIAN USE	CAGRD	RECHARGE POOL	AG POOL	TOTAL DELIVERIES	Milestones
2001	65,000	203,000	63,700	0	23,321	529,989	529,989	1,415,000	
2002	73,500	211,171	83,980	0	24,821	510,764	510,764	1,415,000	
2003	77,800	219,341	83,980	0	26,323	503,778	503,778	1,415,000	
2004	**78,800**	**227,512**	**83,980**	**0**	**27,842**	**498,433**	**498,433**	**1,415,000**	**Onset of 1 Price Ag Pool**
2005	79,800	235,683	83,980	0	29,429	493,054	493,054	1,415,000	
2006	110,000	243,854	83,980	0	31,015	473,076	473,076	1,415,000	
2007	130,465	252,024	83,980	0	33,022	457,754	457,754	1,415,000	
2008	152,965	260,195	83,980	0	35,098	441,381	441,381	1,415,000	
2009	183,893	268,366	83,980	0	37,175	420,793	420,793	1,415,000	
2010	207,193	276,537	83,980	0	39,252	404,019	404,019	1,415,000	
2011	228,793	284,707	83,980	0	41,438	400,000	376,082	1,415,000	
2012	248,955	292,878	83,980	0	44,321	400,000	344,866	1,415,000	
2013	267,617	301,049	83,980	0	47,206	400,000	315,148	1,415,000	
2014	285,280	309,220	83,980	0	50,091	400,000	286,430	1,415,000	
2015	300,942	317,390	83,980	0	52,975	400,000	259,712	1,415,000	
2016	316,604	325,561	83,980	0	55,860	400,000	232,995	1,415,000	
2017	**325,366**	**333,732**	**83,980**	**0**	**59,264**	**301,890**	**310,768**	**1,415,000**	**AWBA Funding Ends**
2018	326,028	341,902	83,980	0	62,668	300,370	300,052	1,415,000	
2019	326,689	350,073	83,980	0	66,071	298,850	289,336	1,415,000	
2020	327,353	358,244	83,980	0	69,475	297,328	278,620	1,415,000	
2021	328,015	366,415	83,980	0	73,008	295,678	267,904	1,415,000	
2022	328,677	374,585	83,980	0	76,235	294,335	257,188	1,415,000	
2023	329,339	382,756	83,980	0	79,462	292,991	246,471	1,415,000	
2024	330,002	390,927	83,980	0	82,689	291,647	235,755	1,415,000	
2025	330,664	399,098	83,980	0	85,916	290,304	225,039	1,415,000	
2026	331,326	407,268	83,980	0	89,143	288,960	214,323	1,415,000	
2027	331,326	415,439	83,980	0	91,780	288,868	203,607	1,415,000	
2028	331,326	423,610	83,980	0	94,417	288,777	192,891	1,415,000	
2029	331,326	431,780	83,980	0	97,054	288,685	182,175	1,415,000	
2030	331,326	439,951	83,980	0	99,691	288,593	171,458	1,415,000	**CAP Ends Ag Commitment**
2031	331,326	448,122	83,980	0	102,329	288,501	160,742	1,415,000	
2032	331,326	456,293	83,980	0	105,049	288,326	150,026	1,415,000	
2033	331,326	464,463	83,980	0	107,877	288,044	139,310	1,415,000	
2034	331,326	472,634	83,980	0	114,037	284,429	128,594	1,415,000	
2035	331,326	480,805	83,980	0	120,791	280,221	117,878	1,415,000	
2036	331,326	488,976	83,980	0	126,605	276,952	107,162	1,415,000	
2037	331,326	497,146	83,980	0	132,628	273,474	96,445	1,415,000	
2038	331,326	505,317	83,980	0	138,652	269,996	85,729	1,415,000	
2039	331,326	513,488	83,980	0	144,675	266,518	75,013	1,415,000	
2040	331,326	521,659	83,980	0	150,698	263,040	64,297	1,415,000	
2041	331,326	529,829	83,980	0	156,722	259,562	53,581	1,415,000	
2042	331,326	538,000	83,980	0	163,060	255,769	42,865	1,415,000	
2043	331,326	538,000	83,980	0	169,398	260,147	32,148	1,415,000	
2044	**331,326**	**515,409**	**78,265**	**0**	**0**	**0**	**0**	**925,000**	**Onset of Shortage**
2045	331,326	515,409	78,265	0	0	0	0	925,000	
2046	**331,326**	**515,409**	**78,265**	**0**	**0**	**0**	**0**	**925,000**	**End of Repayment Period**
2047	331,326	515,409	78,265	0	0	0	0	925,000	
2048	331,326	515,409	78,265	0	0	0	0	925,000	
2049	331,326	515,409	78,265	0	0	0	0	925,000	
2050	331,326	515,409	78,265	0	0	0	0	925,000	
2051	**331,326**	**515,409**	**78,265**	**0**	**0**	**0**	**0**	**925,000**	**End of Study Period**
Total	14,374,216	20,222,272	4,216,980	0	3,458,584	14,795,296	11,177,651	68,245,000	

TRADITIONAL USBR CAP PRIORITY SCHEME (highest priority to lowest priority)
1. Colorado River water
2. Pro rata of Indian and M&I water
3. Indian Ag water (25% of GRIC Indian Ag + 10% of other Indian Ag)
4. M&I water above 510,000 afa
5. NIA water
6. "Excess Water"
within excess water - highest to lowest = 1. CAGRD, 2. Ag Pool, 3. Recharge Pool (AWBA +others)

Shortage reductions (year 2043 - 2050)
5000 afa from RWCD NIA to cities (SRPMIC settlement) from M&I lease column
22622 afa from M&I column (reduction prior to 510,000 afa per 1980 Indian contracts)
715 afa from M&I lease column (reduction pro rata of 17,000 afa of M&I water to Indians leased to M&I users)

TABLE A-5
CAP Allocation Draft EIS
NON-SETTLEMENT ALTERNATIVE 1
DISTRIBUTION OF CAP DELIVERIES BY CATEGORY

					EXCESS WATER				
Year	INDIAN	M&I	M&I LEASE	NIA PRIORITY INDIAN USE	CAGRD	RECHARGE POOL	AG POOL	TOTAL DELIVERIES	Milestones
2001	65,000	203,000	63,700	0	17,635	532,833	532,833	1,415,000	
2002	73,500	211,171	83,980	0	18,539	513,905	513,905	1,415,000	
2003	77,800	219,341	83,980	0	19,609	507,135	507,135	1,415,000	
2004	**78,800**	**227,512**	**83,980**	**0**	**20,793**	**501,957**	**501,957**	**1,415,000**	**Onset of 1 Price Ag Pool**
2005	79,800	235,683	83,980	0	21,978	496,780	496,780	1,415,000	
2006	110,000	243,854	83,980	0	23,162	477,002	477,002	1,415,000	
2007	130,465	252,024	83,980	0	24,347	462,092	462,092	1,415,000	
2008	152,965	260,195	83,980	0	25,531	446,164	446,164	1,415,000	
2009	183,893	268,366	83,980	0	26,715	426,023	426,023	1,415,000	
2010	207,193	276,537	83,980	0	27,900	409,695	409,695	1,415,000	
2011	228,793	284,707	83,980	0	29,537	400,000	387,983	1,415,000	
2012	248,955	292,878	83,980	0	31,223	400,000	357,964	1,415,000	
2013	267,617	301,049	83,980	0	32,955	400,000	329,399	1,415,000	
2014	285,280	309,220	83,980	0	34,687	400,000	301,834	1,415,000	
2015	300,942	317,390	83,980	0	36,419	400,000	276,269	1,415,000	
2016	316,604	325,561	83,980	0	38,151	400,000	250,704	1,415,000	
2017	**343,966**	**333,732**	**83,980**	**0**	**39,883**	**309,033**	**304,406**	**1,415,000**	**AWBA Funding Ends**
2018	344,628	341,902	83,980	0	41,615	308,965	293,910	1,415,000	
2019	345,289	350,073	83,980	0	43,965	308,280	283,413	1,415,000	
2020	345,953	358,244	83,980	0	47,289	306,618	272,916	1,415,000	
2021	363,615	366,415	83,980	0	50,613	287,958	262,419	1,415,000	
2022	364,277	374,585	83,980	0	53,359	286,876	251,923	1,415,000	
2023	364,939	382,756	83,980	0	56,105	285,794	241,426	1,415,000	
2024	365,602	390,927	83,980	0	58,851	284,712	230,929	1,415,000	
2025	366,264	399,098	83,980	0	61,626	283,600	220,432	1,415,000	
2026	384,726	407,268	83,980	0	64,408	264,682	209,936	1,415,000	
2027	384,726	415,439	83,980	0	66,526	264,890	199,439	1,415,000	
2028	384,726	423,610	83,980	0	68,679	265,063	188,942	1,415,000	
2029	384,726	431,780	83,980	0	70,847	265,221	178,445	1,415,000	
2030	**384,726**	**439,951**	**83,980**	**0**	**73,015**	**265,380**	**167,948**	**1,415,000**	**CAP Ends Ag Commitment**
2031	385,485	448,122	83,980	0	75,183	264,779	157,452	1,415,000	
2032	386,244	456,293	83,980	0	77,245	264,284	146,955	1,415,000	
2033	386,244	464,463	83,980	0	79,546	264,309	136,458	1,415,000	
2034	386,244	472,634	83,980	0	82,267	263,914	125,961	1,415,000	
2035	386,244	480,805	83,980	0	84,987	263,519	115,465	1,415,000	
2036	386,244	488,976	83,980	0	88,289	262,543	104,968	1,415,000	
2037	386,244	497,146	83,980	0	93,641	259,518	94,471	1,415,000	
2038	386,244	505,317	83,980	0	99,346	256,139	83,974	1,415,000	
2039	386,244	513,488	83,980	0	105,369	252,442	73,477	1,415,000	
2040	386,244	521,659	83,980	0	111,392	248,744	62,981	1,415,000	
2041	386,244	529,829	83,980	0	117,416	245,047	52,484	1,415,000	
2042	386,244	538,000	83,980	0	123,754	241,035	41,987	1,415,000	
2043	386,244	549,000	83,980	0	130,092	234,193	31,490	1,415,000	
2044	**363,779**	**486,106**	**75,115**	**0**	**0**	**0**	**0**	**925000**	**Onset of Shortage**
2045	345,179	486,106	75,115	0	0	0	0	906400	
2046	**345,179**	**486,106**	**75,115**	**0**	**0**	**0**	**0**	**906400**	**End of Repayment Period**
2047	345,179	486,106	75,115	0	0	0	0	906400	
2048	345,179	486,106	75,115	0	0	0	0	906400	
2049	345,179	486,106	75,115	0	0	0	0	906400	
2050	345,179	486,106	75,115	0	0	0	0	906400	
2051	**345,179**	**486,106**	**75,115**	**0**	**0**	**0**	**0**	**906400**	**End of Study Period**
Total	15,736,215	19,998,848	4,191,780	0	2,494,486	14,481,125	11,212,346	68,114,800	

TRADITIONAL USBR CAP PRIORITY SCHEME (highest priority to lowest priority)
1. Colorado River water
2. Pro rata of Indian and M&I water
3. Indian Ag water (reduce 25% of GRIC Indian Ag then 10% of other Indian Ag)
4. M&I water above 510,000 afa
5. NIA water
6. "Excess Water"
priority within excess water = 1. CAGRD, 2. NIA Pool, 3. Incentive Recharge (AWBA)

Shortage reductions (year 2043 - 2050)
5,000 afa from RWCD NIA to cities (SRPMIC settlement) from M&I lease column
18,600 afa from RWCD NIA to GRIC from Indian column
125,302 afa from M&I water to get to 510,000 (per the 1980 Indian contracts)
reductions to the Indian and M&I leases are only to the M&I portion of the supply

TABLE A-6
CAP Allocation Draft EIS
NON-SETTLEMENT ALTERNATIVE 2
CAP DELIVERIES BY CATEGORY

					EXCESS WATER				
Year	INDIAN	M&I	M&I LEASE	NIA PRIORITY INDIAN USE	CAGRD	RECHARGE POOL	AG POOL	TOTAL DELIVERIES	Milestones
2001	65,000	203,000	63,700	0	23,321	529,989	529,989	1,415,000	
2002	73,500	211,171	83,980	0	24,821	510,764	510,764	1,415,000	
2003	77,800	219,341	83,980	0	26,323	503,778	503,778	1,415,000	
2004	**78,800**	**227,512**	**83,980**	**0**	**27,842**	**498,433**	**498,433**	**1,415,000**	**Onset of 1 Price Ag Pool**
2005	79,800	235,683	83,980	0	29,429	493,054	493,054	1,415,000	
2006	110,000	243,854	83,980	0	31,015	473,076	473,076	1,415,000	
2007	130,465	252,024	83,980	0	33,022	457,754	457,754	1,415,000	
2008	152,965	260,195	83,980	0	35,098	441,381	441,381	1,415,000	
2009	183,893	268,366	83,980	0	37,175	420,793	420,793	1,415,000	
2010	207,193	276,537	83,980	0	39,252	400,000	408,038	1,415,000	
2011	242,293	284,707	83,980	0	41,438	400,000	362,582	1,415,000	
2012	262,455	292,878	83,980	0	44,321	400,000	331,366	1,415,000	
2013	281,117	301,049	83,980	0	47,206	400,000	301,648	1,415,000	
2014	298,780	309,220	83,980	0	50,091	400,000	272,930	1,415,000	
2015	314,442	317,390	83,980	0	52,975	400,000	246,212	1,415,000	
2016	330,104	325,561	83,980	0	55,860	400,000	219,495	1,415,000	
2017	**338,866**	**333,732**	**83,980**	**18,600**	**59,264**	**289,925**	**290,633**	**1,415,000**	**AWBA Funding Ends**
2018	339,528	341,902	83,980	18,600	62,668	287,711	280,611	1,415,000	
2019	340,189	350,073	83,980	18,600	66,071	285,497	270,589	1,415,000	
2020	340,853	358,244	83,980	18,600	69,475	283,280	260,568	1,415,000	
2021	358,515	366,415	83,980	18,600	73,008	263,936	250,546	1,415,000	
2022	359,177	374,585	83,980	18,600	76,235	261,899	240,524	1,415,000	
2023	359,839	382,756	83,980	18,600	79,462	259,861	230,502	1,415,000	
2024	360,502	390,927	83,980	18,600	82,689	257,822	220,480	1,415,000	
2025	361,164	399,098	83,980	18,600	85,916	255,784	210,458	1,415,000	
2026	407,826	407,268	83,980	18,600	89,143	207,747	200,437	1,415,000	
2027	407,826	415,439	83,980	18,600	91,780	206,960	190,415	1,415,000	
2028	407,826	423,610	83,980	18,600	94,417	206,174	180,393	1,415,000	
2029	407,826	431,780	83,980	18,600	97,054	205,388	170,371	1,415,000	
2030	**407,826**	**439,951**	**83,980**	**18,600**	**99,691**	**204,602**	**160,349**	**1,415,000**	**CAP Ends Ag Commitment**
2031	408,585	448,122	83,980	18,600	102,329	203,057	150,327	1,415,000	
2032	433,291	456,293	83,980	18,600	105,049	200,000	117,787	1,415,000	
2033	433,291	464,463	83,980	18,600	107,877	200,000	106,789	1,415,000	
2034	433,291	472,634	83,980	18,600	114,037	200,000	92,458	1,415,000	
2035	433,291	480,805	83,980	18,600	120,791	200,000	77,534	1,415,000	
2036	433,291	488,976	83,980	38,100	126,605	200,000	44,049	1,415,000	
2037	433,291	497,146	83,980	57,599	132,628	200,000	10,355	1,415,000	
2038	433,291	505,317	83,980	57,599	138,652	196,161	0	1,415,000	
2039	433,291	513,488	83,980	57,599	144,675	181,967	0	1,415,000	
2040	433,291	521,659	83,980	57,599	150,698	167,773	0	1,415,000	
2041	433,291	529,829	83,980	57,599	156,722	153,579	0	1,415,000	
2042	433,291	538,000	83,980	57,599	163,060	139,070	0	1,415,000	
2043	433,291	549,000	83,980	57,599	169,398	121,732	0	1,415,000	
2044	**416,950**	**432,499**	**75,551**	**0**		**0**	**0**	**925000**	**Onset of Shortage**
2045	400,609	432,499	75,551	0		16,341	0	925000	
2046	**400,609**	**432,499**	**75,551**	**0**		**16,341**	**0**	**925000**	**End of Repayment Period**
2047	400,609	432,499	75,551	0		16,341	0	925000	
2048	400,609	432,499	75,551	0		16,341	0	925000	
2049	400,609	432,499	75,551	0		16,341	0	925000	
2050	400,609	432,499	75,551	0		16,341	0	925000	
2051	**400,609**	**432,499**	**75,551**	**0**		**16,341**	**0**	**925000**	**End of Study Period**
Total	16,915,660	19,569,992	4,195,268	794,693	3,458,584	13,083,334	10,227,468	68,245,000	

TRADITIONAL USBR CAP PRIORITY SCHEME (highest priority to lowest priority)
1. Colorado River water
2. Pro rata of Indian and M&I water
3. Indian Ag water (reduce 25% of GRIC Indian Ag then 10% of other Indian Ag)
4. M&I water above 510,000 afa
5. NIA water
6. "Excess Water"
priority within excess water = 1. CAGRD, 2. NIA Pool, 3. Incentive Recharge (AWBA)

Shortage reductions (year 2043 - 2050)
5,000 afa from RWCD NIA to cities (SRPMIC settlement) from M&I lease column
18,600 afa from RWCD NIA to GRIC from Indian column
57599 afa from Indian NIA column
125,302 afa from M&I water to get to 510,000 (per the 1980 Indian contracts)
includes 116,492 afa from M&I column
3,429 afa from M&I lease column (pro rata share based on M&I component of leased water)
16,341 afa from Indian column (pro rata share based on M&I component of Indian supply)

TABLE A-7
CAP Allocation Draft EIS
NON-SETTLEMENT ALTERNATIVE 3 - A
CAP DELIVERIES BY CATEGORY

						EXCESS WATER				
Year	INDIAN	M&I	M&I LEASE	NIA PRIORITY INDIAN USE	CONTRACTED NIA	CAGRD	RECHARGE POOL	AG POOL	TOTAL DELIVERIES	Milestones
2001	65,000	203,000	63,700	0	71,815	23,321	494,082	494,082	1,415,000	
2002	73,500	211,171	83,980	0	71,815	24,821	474,857	474,857	1,415,000	
2003	77,800	219,341	83,980	0	71,815	26,323	467,870	467,870	1,415,000	
2004	**78,800**	**227,512**	**83,980**	**0**	**71,815**	**27,842**	**462,525**	**462,525**	**1,415,000**	**Onset of 1 Price Ag Pool**
2005	79,800	235,683	83,980	0	71,815	29,429	457,147	457,147	1,415,000	
2006	110,000	243,854	83,980	0	71,815	31,015	437,168	437,168	1,415,000	
2007	130,465	252,024	83,980	0	71,815	33,022	421,847	421,847	1,415,000	
2008	152,965	260,195	83,980	0	71,815	35,098	405,473	405,473	1,415,000	
2009	183,893	268,366	83,980	0	71,815	37,175	384,885	384,885	1,415,000	
2010	207,193	276,537	83,980	0	71,815	39,252	400,000	336,223	1,415,000	
2011	242,293	284,707	83,980	0	71,815	41,438	400,000	290,767	1,415,000	
2012	262,455	292,878	83,980	0	71,815	44,321	400,000	259,551	1,415,000	
2013	281,117	301,049	83,980	0	71,815	47,206	400,000	229,833	1,415,000	
2014	298,780	309,220	83,980	0	71,815	50,091	400,000	201,115	1,415,000	
2015	314,442	317,390	83,980	0	71,815	52,975	400,000	174,397	1,415,000	
2016	330,104	325,561	83,980	0	71,815	55,860	400,000	147,680	1,415,000	
2017	**338,866**	**333,732**	**83,980**	**18,600**	**71,815**	**59,264**	**218,110**	**290,633**	**1,415,000**	**AWBA Funding Ends**
2018	339,528	341,902	83,980	18,600	71,815	62,668	215,896	280,611	1,415,000	
2019	340,189	350,073	83,980	18,600	71,815	66,071	213,682	270,589	1,415,000	
2020	340,853	358,244	83,980	18,600	71,815	69,475	211,465	260,568	1,415,000	
2021	358,515	366,415	83,980	18,600	71,815	73,008	200,000	242,667	1,415,000	
2022	359,177	374,585	83,980	18,600	71,815	76,235	200,000	230,607	1,415,000	
2023	359,839	382,756	83,980	18,600	71,815	79,462	200,000	218,548	1,415,000	
2024	360,502	390,927	83,980	18,600	71,815	82,689	200,000	206,487	1,415,000	
2025	361,164	399,098	83,980	18,600	71,815	85,916	200,000	194,428	1,415,000	
2026	407,826	407,268	83,980	18,600	71,815	89,143	200,000	136,368	1,415,000	
2027	407,826	415,439	83,980	18,600	71,815	91,780	200,000	125,560	1,415,000	
2028	407,826	423,610	83,980	18,600	71,815	94,417	200,000	114,752	1,415,000	
2029	407,826	431,780	83,980	18,600	71,815	97,054	200,000	103,944	1,415,000	
2030	**407,826**	**439,951**	**83,980**	**28,600**	**71,815**	**99,691**	**200,000**	**83,136**	**1,415,000**	**CAP Ends Ag Commitment**
2031	408,585	448,122	83,980	38,600	71,815	102,329	200,000	61,570	1,415,000	
2032	433,291	456,293	83,980	48,600	71,815	105,049	200,000	15,972	1,415,000	
2033	433,291	464,463	83,980	58,600	71,815	107,877	194,974	0	1,415,000	
2034	433,291	472,634	83,980	68,600	71,815	114,037	170,643	0	1,415,000	
2035	433,291	480,805	83,980	78,600	71,815	120,791	145,719	0	1,415,000	
2036	433,291	488,976	83,980	108,100	71,815	126,605	102,234	0	1,415,000	
2037	433,291	497,146	83,980	123,100	71,815	132,628	73,039	0	1,415,000	
2038	433,291	505,317	83,980	138,100	71,815	138,652	43,845	0	1,415,000	
2039	433,291	513,488	83,980	153,100	71,815	144,675	14,651	0	1,415,000	
2040	433,291	521,659	83,980	164,653	71,815	139,602	0	0	1,415,000	
2041	433,291	529,829	83,980	169,253	71,815	126,832	0	0	1,415,000	
2042	433,291	538,000	83,980	169,253	71,815	118,661	0	0	1,415,000	
2043	433,291	549,000	83,980	169,253	71,815	107,661	0	0	1,415,000	
2044	**416,950**	**432,499**	**75,551**	**0**	**0**	**0**	**0**	**0**	**925,000**	**Onset of Shortage**
2045	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2046	**400,609**	**432,499**	**75,551**	**0**	**0**	**0**	**16,341**	**0**	**925,000**	**End of Repayment Period**
2047	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2048	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2049	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2050	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2051	**400,609**	**432,499**	**75,551**	**0**	**0**	**0**	**16,341**	**0**	**925,000**	**End of Study Period**
Total	16,915,660	19,569,992	4,195,268	1,758,212	3,088,045	3,311,462	10,924,500	8,481,862	68,245,001	

TRADITIONAL USBR CAP PRIORITY SCHEME (highest priority to lowest priority)
1. Colorado River water
2. Pro rata of Indian and M&I water
3. Indian Ag water (reduce 25% of GRIC Indian Ag then 10% of other Indian Ag)
4. M&I water above 510,000 afa
5. NIA water
6. "Excess Water"
priority within excess water = 1. CAGRD, 2. NIA Pool, 3. Incentive Recharge (AWBA)

Shortage reductions (year 2043 - 2050)
5,000 afa from RWCD NIA to cities (SRPMIC settlement) from M&I lease column
18,600 afa from RWCD NIA to GRIC from Indian column
169,253 afa from Indian NIA column
125,302 afa from M&I water to get to 510,000 (per the 1980 Indian contracts)
includes 116,492 afa from M&I column
3,429 afa from M&I lease column (pro rata share based on M&I component of leased water)
16,341 afa from Indian column (pro rata share based on M&I component of Indian supply)

TOTAL CAGRD SHORTAGE = 193,412 afa at 2051

TABLE A-8
CAP Allocation Draft EIS
NON-SETTLEMENT ALTERNATIVE 3 - B
CAP DELIVERIES BY CATEGORY

						EXCESS WATER				
Year	INDIAN	M&I	M&I LEASE	NIA PRIORITY INDIAN USE	NIA CONTRACTED TO M&I	CAGRD	RECHARGE POOL	AG POOL	TOTAL DELIVERIES	Milestones
2001	65,000	203,000	63,700	0	71,815	17,635	496,925	496,925	1,415,000	
2002	73,500	211,171	83,980	0	71,815	18,539	477,998	477,998	1,415,000	
2003	77,800	219,341	83,980	0	71,815	19,609	471,227	471,227	1,415,000	
2004	**78,800**	**227,512**	**83,980**	**0**	**71,815**	**20,793**	**466,050**	**466,050**	**1,415,000**	**Onset of 1 Price Ag Pool**
2005	79,800	235,683	83,980	0	71,815	21,978	460,872	460,872	1,415,000	
2006	110,000	243,854	83,980	0	71,815	23,162	441,095	441,095	1,415,000	
2007	130,465	252,024	83,980	0	71,815	24,347	426,185	426,185	1,415,000	
2008	152,965	260,195	83,980	0	71,815	25,531	410,257	410,257	1,415,000	
2009	183,893	268,366	83,980	0	71,815	26,715	390,115	390,115	1,415,000	
2010	207,193	276,537	83,980	0	71,815	27,900	400,000	347,576	1,415,000	
2011	242,293	284,707	83,980	0	71,815	29,537	400,000	302,668	1,415,000	
2012	262,455	292,878	83,980	0	71,815	31,223	400,000	272,649	1,415,000	
2013	281,117	301,049	83,980	0	71,815	32,955	400,000	244,084	1,415,000	
2014	298,780	309,220	83,980	0	71,815	34,687	400,000	216,519	1,415,000	
2015	314,442	317,390	83,980	0	71,815	36,419	400,000	190,954	1,415,000	
2016	330,104	325,561	83,980	0	71,815	38,151	400,000	165,389	1,415,000	
2017	**338,866**	**333,732**	**83,980**	**18,600**	**71,815**	**39,883**	**237,491**	**290,633**	**1,415,000**	**AWBA Funding Ends**
2018	339,528	341,902	83,980	18,600	71,815	41,615	236,949	280,611	1,415,000	
2019	340,189	350,073	83,980	18,600	71,815	43,965	235,788	270,589	1,415,000	
2020	340,853	358,244	83,980	18,600	71,815	47,289	233,652	260,568	1,415,000	
2021	358,515	366,415	83,980	18,600	71,815	50,613	200,000	265,063	1,415,000	
2022	359,177	374,585	83,980	18,600	71,815	53,359	200,000	253,484	1,415,000	
2023	359,839	382,756	83,980	18,600	71,815	56,105	200,000	241,905	1,415,000	
2024	360,502	390,927	83,980	18,600	71,815	58,851	200,000	230,326	1,415,000	
2025	361,164	399,098	83,980	18,600	71,815	61,626	200,000	218,717	1,415,000	
2026	407,826	407,268	83,980	18,600	71,815	64,408	200,000	161,102	1,415,000	
2027	407,826	415,439	83,980	18,600	71,815	66,526	200,000	150,814	1,415,000	
2028	407,826	423,610	83,980	18,600	71,815	68,679	200,000	140,490	1,415,000	
2029	407,826	431,780	83,980	18,600	71,815	70,847	200,000	130,152	1,415,000	
2030	**407,826**	**439,951**	**83,980**	**28,600**	**71,815**	**73,015**	**200,000**	**109,813**	**1,415,000**	**CAP Ends Ag Commitment**
2031	408,585	448,122	83,980	38,600	71,815	75,183	200,000	88,715	1,415,000	
2032	433,291	456,293	83,980	48,600	71,815	77,245	200,000	43,777	1,415,000	
2033	433,291	464,463	83,980	58,600	71,815	79,546	223,305	0	1,415,000	
2034	433,291	472,634	83,980	68,600	71,815	82,267	202,413	0	1,415,000	
2035	433,291	480,805	83,980	78,600	71,815	84,987	181,522	0	1,415,000	
2036	433,291	488,976	83,980	108,100	71,815	88,289	140,549	0	1,415,000	
2037	433,291	497,146	83,980	123,100	71,815	93,641	112,027	0	1,415,000	
2038	433,291	505,317	83,980	138,100	71,815	99,346	83,151	0	1,415,000	
2039	433,291	513,488	83,980	153,100	71,815	105,369	53,957	0	1,415,000	
2040	433,291	521,659	83,980	164,653	71,815	111,392	28,210	0	1,415,000	
2041	433,291	529,829	83,980	169,253	71,815	117,416	9,416	0	1,415,000	
2042	433,291	538,000	83,980	169,253	71,815	118,661	0	0	1,415,000	
2043	433,291	549,000	83,980	169,253	71,815	107,693	0	0	1,415,032	
2044	**416,950**	**432,499**	**75,551**	**0**	**0**	**0**	**0**	**0**	**925,000**	**Onset of Shortage**
2045	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2046	**400,609**	**432,499**	**75,551**	**0**	**0**	**0**	**16,341**	**0**	**925,000**	**End of Repayment Period**
2047	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2048	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2049	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2050	400,609	432,499	75,551	0	0	0	16,341	0	925,000	
2051	**400,609**	**432,499**	**75,551**	**0**	**0**	**0**	**16,341**	**0**	**925,000**	**End of Study Period**
Total	16,915,660	19,569,992	4,195,268	1,758,212	3,088,045	2,466,994	11,333,541	8,917,321	68,245,032	

TRADITIONAL USBR CAP PRIORITY SCHEME (highest priority to lowest priority)
1. Colorado River water
2. Pro rata of Indian and M&I water
3. Indian Ag water (reduce 25% of GRIC Indian Ag then 10% of other Indian Ag)
4. M&I water above 510,000 afa
5. NIA water
6. "Excess Water"
priority within excess water = 1. CAGRD, 2. NIA Pool, 3. Incentive Recharge (AWBA)

Shortage reductions (year 2043 - 2050)
5,000 afa from RWCD NIA to cities (SRPMIC settlement) from M&I lease column
18,600 afa from RWCD NIA to GRIC from Indian column
169,253 afa from Indian NIA column
125,302 afa from M&I water to get to 510,000 (per the 1980 Indian contracts)
includes 116,492 afa from M&I column
3,429 afa from M&I lease column (pro rata share based on M&I component of leased water)
16,341 afa from Indian column (pro rata share based on M&I component of Indian supply)

TOTAL CAGRD SHORTAGE = 193,412 afa at 2051

Table A-9
CAP Allocation Draft EIS
M&I Population Projections and Projected Demands
(Excludes SRP Service Area)

	TMP GPCD	2001	2006	2011	2016	2021	2026	2031	2036	2041	2046	2051
Arizona Water Company-Apache Junction Population	238	25,109	27,041	28,812	30,417	33,026	35,849	38,129	39,134	40,008	40,828	41,683
Demand (afa)		6,694	7,209	7,681	8,109	8,804	9,557	10,165	10,433	10,666	10,885	11,113
AVRA Water Cooperative Population	120	5,623	7,031	8,440	9,848	11,257	12,651	14,045	15,439	16,833	18,227	19,621
Demand (afa)		755	944	1,133	1,322	1,511	1,698	1,885	2,073	2,260	2,447	2,634
Cave Creek Water Company Population	163	4,968	6,871	8,773	10,676	12,579	13,569	14,559	15,548	16,538	17,528	18,518
Demand (afa)		905	1,252	1,598	1,945	2,292	2,472	2,652	2,833	3,013	3,193	3,374
City of Chandler Population	198	32,515	54,578	71,197	83,526	94,861	101,029	107,426	113,967	114,037	124,387	130,936
Demand (afa)		7,210	12,102	15,787	18,520	21,034	22,401	23,820	25,270	25,286	27,581	29,033
Chaparral City Water Company Population	270	22,138	30,262	38,385	46,509	54,632	54,709	54,787	54,864	54,941	55,018	55,096
Demand (afa)		6,687	9,140	11,594	14,047	16,501	16,524	16,547	16,571	16,594	16,617	16,641
Community Water Company of Green Valley Population	140	14,290	16,101	17,911	19,722	21,532	22,656	23,780	24,903	26,027	27,151	28,275
Demand (afa)		2,244	2,528	2,812	3,096	3,381	3,557	3,734	3,910	4,087	4,263	4,439
City of El Mirage Population	149	6,006	6,323	6,639	6,956	7,272	8,780	10,288	11,796	13,304	14,812	16,320
Demand (afa)		1,001	1,053	1,106	1,159	1,212	1,463	1,714	1,965	2,216	2,468	2,719
City of Glendale Population	182	63,848	70,890	79,037	88,709	95,279	106,521	108,927	110,627	111,278	111,717	112,147
Demand (afa)		13,009	14,444	16,104	18,075	19,413	21,704	22,194	22,541	22,673	22,763	22,850
City of Goodyear Population	232	15,479	21,790	28,829	43,029	67,205	91,502	119,785	146,032	174,583	194,199	204,586
Demand (afa)		4,026	5,667	7,498	11,191	17,479	23,798	31,155	37,981	45,407	50,508	53,210
H20 Water Company Population	176	793	886	979	1,072	1,165	1,281	1,397	1,513	1,629	1,745	1,861
Demand (afa)		157	175	193	212	230	253	276	299	322	345	368
City of Mesa Population	165	183,579	231,465	284,870	304,963	324,144	344,760	351,771	353,116	354,484	362,685	366,723
Demand (afa)		33,885	42,723	52,580	56,289	59,830	63,635	64,929	65,177	65,430	66,943	67,689
Metropolitan Domestic Water Improvement District Population	168	47,750	54,630	61,509	68,389	75,269	79,966	84,663	89,360	94,057	98,754	103,451
Demand (afa)		8,985	10,280	11,574	12,869	14,164	15,047	15,931	16,815	17,699	18,583	19,467
Town of Oro Valley Population	180	27,362	33,392	39,423	45,453	51,484	58,143	64,801	71,460	78,118	84,777	91,435
Demand (afa)		5,509	6,724	7,938	9,152	10,367	11,707	13,048	14,389	15,730	17,070	18,411
City of Peoria Population	157	39,933	70,316	82,744	106,564	120,675	131,873	145,191	163,884	186,070	221,507	285,779
Demand (afa)		7,036	12,389	14,578	18,775	21,261	23,234	25,581	28,874	32,783	39,027	50,351
City of Phoenix Population	202	600,736	661,404	733,538	804,317	871,775	977,823	1,095,192	1,192,833	1,287,982	1,367,926	1,415,679
Demand (afa)		136,083	149,826	166,166	182,199	197,480	221,503	248,090	270,209	291,762	309,872	320,689
City of Scottsdale Population	249	133,885	169,106	195,624	216,976	227,441	248,970	273,252	286,671	286,496	286,757	286,946
Demand (afa)		37,389	47,225	54,630	60,593	63,516	69,528	76,309	80,057	80,008	80,081	80,133
Town of Superior/Arizona Water Company-Superior Population	126	3,483	3,516	3,550	3,583	3,616	3,632	3,647	3,663	3,678	3,694	3,709
Demand (afa)		493	497	502	507	511	514	516	518	520	522	525
City of Surprise Population	214	15,030	20,678	22,428	25,159	31,674	36,033	47,590	59,955	73,972	108,684	153,282
Demand (afa)		3,603	4,957	5,376	6,031	7,592	8,637	11,408	14,372	17,732	26,053	36,743
City of Tucson Population	153	644,223	691,429	738,635	785,841	833,047	882,295	931,543	980,791	1,030,039	1,079,287	1,128,535
Demand (afa)		110,415	118,506	126,597	134,688	142,779	151,219	159,660	168,101	176,542	184,982	193,423
Vail Water Company Population	164	3,100	5,156	7,211	9,267	11,323	12,706	14,090	15,473	16,856	#REF!	#REF!
Demand (afa)		568	945	1,323	1,700	2,077	2,330	2,584	2,838	3,091	#REF!	#REF!
Valley Utilities Water Company Population	126	7,726	8,693	9,659	10,626	11,593	12,735	13,877	15,019	16,161	17,303	18,445
Demand (afa)		1,093	1,229	1,366	1,503	1,640	1,801	1,963	2,124	2,286	2,447	2,609
TOTAL POPULATION		1,872,466	2,164,516	2,439,381	2,691,185	2,927,823	3,201,633	3,480,609	3,726,914	3,957,083	#REF!	#REF!
TOTAL ENTITIES NON-SRP DEMAND		381,051	442,607	500,457	553,874	604,268	663,028	723,996	776,915	825,439	#REF!	#REF!
OTHER ENTITIES NON-SRP DEMAND		5,455	12,109	18,764	25,418	32,073	38,727	45,382	52,036	58,691	65,345	72,000
TOTAL NON-SRP DEMAND		386,505	454,716	519,221	579,292	636,341	701,755	769,378	828,951	884,130	#REF!	#REF!
CAP/AWBA Demand Projection		241,000	346,854	458,707	575,561	621,415	670,268	721,122	778,976	829,829	882,000	937,000

Note:

TMP gpcd from Phoenix and Tucson AMA TMP, ADWR, 1999

Lost and unaccounted water estimated at 7% of gpcd and added to TMP gpcd rate

Vail Water Company gpcd = City of Tucson

H2O Water Company gpcd = City of Mesa

City of Surprise gpcd from ADWR worksheet

Table A-10
CAP Allocation Draft EIS
Preliminary Summary of M&I Entities at 2051

		DEMAND	SUPPLIES				DEMAND	SUPPLIES		DEMAND	SUPPLIES		DEMAND	SUPPLIES	
							Settlement Alternative			**Non-Settlement Alternatives 1 and 3B**			**Non-Settlement Alternatives 2, 3A, and No Action Alternative**		
	TMP gpcd	2051 Total Demand	2051 Non-CAP Allocations Supplies[a]	Existing Allocation	Proposed Allocation	GRIC Lease	Residual	Effluent	CAGRD	Residual	Effluent	CAGRD	Residual	Effluent	CAGRD
Arizona Water Company -Apache Junction[b]	143	11,114	5,114	6,000	*285*	0	0	0	0	0	0	0	0 [d]	0	0
AVRA Water Cooperative	120	2,634	0	0	808	0	1,826	0	1,826	1,826	0	1,826	2,634	0	2,634
Cave Creek Water Company	163	6,411	65	1,600	806	0	3,941	2,973	968	3,941	2,973	968	4,746	2,973	1,774
City of Chandler	198	75,483	60,972	3,668	4,986	5,857	0	0	0	5,857 [h]	5,857	0	10,843	10,843	0
Chaparral City Water Company	270	16,641	546	6,978	1,931	0	7,186	1,686	5,500	7,186	1,686	5,500	9,117	1,686	7,431
Community Water Company of Green Valley	140	4,439	0	1,337	1,521	0	1,581	0	1,581	1,581	0	1,581	3,102	0	3,102
City of El Mirage	149	4,003	460	0	508	0	3,035	560	2,475	3,035	560	2,475	3,543	560	2,983
City of Glendale	182	69,518	54,428	14,183	3,053	5,857	0	0	0	0	0	0	906 [e]	906	0
City of Goodyear	232	76,218	23,656	3,381	7,211	5,857	36,113	3,360	32,753	41,970	3,360	38,610	49,181	3,360	45,821
H20 Water Company	176	368	0	0	147	0	221	0	221	221	0	221	368	0	368
City of Mesa	165	122,689	74,838	36,388	7,115	5,857	0	959	0	4,348	4,348	0	11,463 [f]	11,463	0
Metropolitan Domestic Water Improvement District	168	19,467	0	8,858	4,602	0	6,007	0	6,007	6,007	0	6,007	10,609	0	10,609
Town of Oro Valley	180	18,411	0	2,294	3,557	0	12,560	0	12,560	12,560	0	12,560	16,117	0	16,117
City of Peoria	157	63,132	15,203	18,709	5,527	5,857	17,835	0	17,835	23,692	0	23,692	29,219	0	29,219
City of Phoenix	202	577,341	391,461	113,914	8,206	5,857	57,903	41,541	16,362	63,760	41,541	22,219	71,966	41,541	30,425
City of Scottsdale	249	104,135	48,574	49,029	2,981	5,857	0	1,000	0	0	2,247	0	6,532 [g]	6,532	0
Town of Superior/Arizona Water Company-Superior	126	525	0	0	285	0	240	0	240	240	0	240	525	0	525
City of Surprise	214	56,566	21,352	7,373	2,876	0	24,965	3,584	21,381	24,965	3,584	21,381	27,841	3,584	24,257
City of Tucson	153	193,423	44,733	138,920	8,206	0	1,564	0	1,564	1,564	0	1,564	9,770	0	9,770
Vail Water Company	164	3,598	0	786	1,071	0	1,741	0	1,741	1,741	0	1,741	2,812	0	2,812
Valley Utilities Water Company	126	2,609	0	0	250	0	2,359	0	2,359	2,359	0	2,359	2,609	0	2,609
TOTAL:		1,428,724	741,402	413,418	65,932 [c]	40,999	179,077	55,663	125,372	206,853	66,156	142,943	273,903	83,448	190,455

NOTES:
[a]Includes SRP water, Gatewater, Indian settlement water Reclaimed Wastewater for Turf, Groundwater, Roosevelt Conservation Space, Salt River Pima-Maricopa Indian Community (SRPMIC)/Roosevelt Irrigation District Exchange, Hohokam Irrigation and Drainage District (HIDD) Buyout, and Poor Quality Groundwater.
[b]Apache Junction reallocated CAP supply would only be provided if Superior does not accept the offered allocation.
[c]Total proposed allocation volume includes Superior and Apache Junction, only one of these entities will receive an allocation, so that the total water available is 64,647 afa.
[d]Apache Junctions residual will be made up from additional groundwater pumping, from outside of the AMA.
[e]Glendale has additional non-CAP supplies that may be applied if it does not receive additional CAP water including the use of effluent pledged in its AWS designation.
[f]Mesa has additional non-CAP supplies that may be applied if it does not receive additional CAP water including the use of effluent pledged in its AWS designation.
[g]Scottsdale has additional non-CAP supplies that may be applied if it does not receive additional CAP water including the use of effluent pledged in its AWS designation.
[h]Chandler has additional non-CAP supplies that may be applied if it does not receive additional CAP water including the use of effluent pledged in its AWS designation.

Table A-11

CAP Allocation Draft EIS

CAP Ag Pool Percentage Distribution

	CAWCD Proposed SETTLEMENT	CAWCD "Allocation" ALL NON-SETTLEMENT ALTERNATIVES
CAIDD	27.02%	33.1%
CHCID	0.14%	0.5%
CMID	1.39%	-
HVID*	7.98%	5.3%
HIDD	8.28%	4.5%
MSIDD	27.02%	32.4%
MWD	0.97%	-
NMIDD	8.58%	10.3%
QCID	2.19%	7.8%
RWCD	2.18%	3.8%
RID	2.31%	-
SCIDD	8.13%	-
STID	0.34%	1.1%
TID	0.42%	1.3%
Total	96.95%	100.0%

* Harquahala Valley Irrigation District

Note, CAWCD Proposed column does not add to 100% because it includes districts not listed in this table.

Table A-12
CAP Allocation Draft EIS
Non-Settlement Alternative 3A NIA Allocation

	CAP Eligible Acreage (acres)	CAP Eligible Acreage	Source	Districts in 1992 Environmental Assessment	Adjust NMIDD	NIA Alt. 3A Allocation Percentage	NIA Alt. 3A Allocation Volume
CAIDD	85,434	22.7%	1	85,434	85,434	38.07%	27,342
CHCID	542	0.1%	1	542	542	0.24%	173
CMID	9,368	2.5%	2				
HVID	27,591	7.3%	1				
HIDD	32,537	8.6%	1				
MSIDD	82,795	22.0%	1	82,795	82,795	36.90%	26,497
MWD	17,769	4.7%	2				
NMIDD	26,548	7.0%	1	26,548	10,612 (5)	4.73%	3,396
QCID	19,161	5.1%	1				
RWCD	23,933	6.3%	3				
RID	19,130	5.1%	4	19,130	19,130 (6)	8.53%	6,122
SCIDD	25,884	6.9%	4	25,884	25,884 (6)	11.53%	8,284
STID	2,832	0.8%	1				
TID	3,433	0.9%	1				
Total	376,957	100.0%			224,397	100.00%	71,815
							71,815

Notes:

Source:

1. Reclamation's Phoenix Area Office Determination from 12/17/99 Review of CAP Eligible Acreage Memorandum Copied to CAWCD
2. CAP May 1986 Water Supply Study, pg.15
3. CAP 1996 Water Supply Study for Stage II Cost Allocation, page 17.
4. 1992 Appraisal-level estimate.
5. NMIDD adjusted by (7.23-4.34=2.89)/7.23 (1992 allocation/total allocation)
6. Decreased CAP eligible acreage of RID and SCIDD to CAWCD's eligible acreage based on other surface water supplies. (CAWCD memo dated March 30, 2000.)

Table A-13
CAP Allocation Draft EIS
Summary of Key Assumptions Affecting NIA Sector

Assumption	No Action Alternative	Settlement Alternative	Alternative 1	Alternative 2	Alternative 3
CAWCD Ag Pool Structure	No commitment	CAWCD commitment through 2030	No commitment	No commitment	No commitment
Reclamation 9(d) Debt Relief	None	Degree under negotiation	None	None	None
In-lieu Recharge Program in Pinal County	Continues through 2016	Continues through 2016	Continues through 2016	Continues through 2016	Continues through 2016

Table A-14
CAP Allocation Draft EIS
Summary of Key Assumptions Affecting Indian Sector

Assumption	No Action Alternative	Settlement Alternative	Non-Settlement Alternative 1	Non-Settlement Alternative 2	Non-Settlement Alternative 3
Increased CAP Allocations	No	Yes (217,000 af)	Yes (17,000 af)	Yes (121,646 af)	Yes (306,095 af)
Increased Federal Funding for Distribution Systems	No	Yes	No	Increase in later years	Increase in later years
Water Use Projection	Continue current trend	Accelerated schedule	Continue current trend	Continue current trend until later years, then accelerate based on allocation	Continue current trend until later years, then accelerate based on allocation
Additional Leases to M&I Sector	No	Yes	No	No	No
Water Rights Settlement	No	Yes	No	No	No
Water Reserved for Future Indian Water Rights Settlements	None	Treated as excess water for period of analysis	None	None	Treated as excess water for period of analysis

Table A-15
CAP Allocation Draft EIS
Summary of Key Assumptions Affecting M&I Sector

Assumption	No Action Alternative	Settlement Alternative	Non-Settlement Alternative 1	Non-Settlement Alternative 2	Non-Settlement Alternative 3
Additional leases to M&I sector	No	Yes	No	No	No
Wheeling of Non-CAP water	No	No	No	No	No

Table A-16
CAP Allocation Draft EIS
Summary of Key Assumptions Affecting AWBA and CAGRD

Assumption	No Action Alternative	Settlement Alternative	Non-Settlement Alternative 1	Non-Settlement Alternative 2	Non-Settlement Alternative 3
AWBA funding sunsets in 2017	Yes	Yes	Yes	Yes	Yes
Recharge activities post 2017	Continued by M&I entities, as excess water is available	Continued by M&I entities, as excess water is available	Continued by M&I entities, as excess water is available	Continued by M&I entities, as excess water is available	Continued by M&I entities, as excess water is available
Direct Recharge activities based on current pattern plus Agua Fria and future westside sites	Yes	Yes	Yes	Yes	Yes
In-lieu Recharge activities based on current pattern	Yes, but no recharge in Pinal County after 2016	Yes, but no recharge in Pinal County after 2016	Yes, but no recharge in Pinal County after 2016	Yes, but no recharge in Pinal County after 2016	Yes, but no recharge in Pinal County after 2016
AWBA receives CAP allocation	No	No	No	No	No
CAGRD receives CAP allocation	Limited	Limited	Limited	Limited	Limited
CAGRD direct delivery	Only as currently allowed by law	Only as currently allowed by law	Only as currently allowed by law	Only as currently allowed by law	Only as currently allowed by law

FIGURE A-1
CAP ALLOCATION DRAFT EIS
PROJECTED CAP WATER SUPPLY DELIVERIES

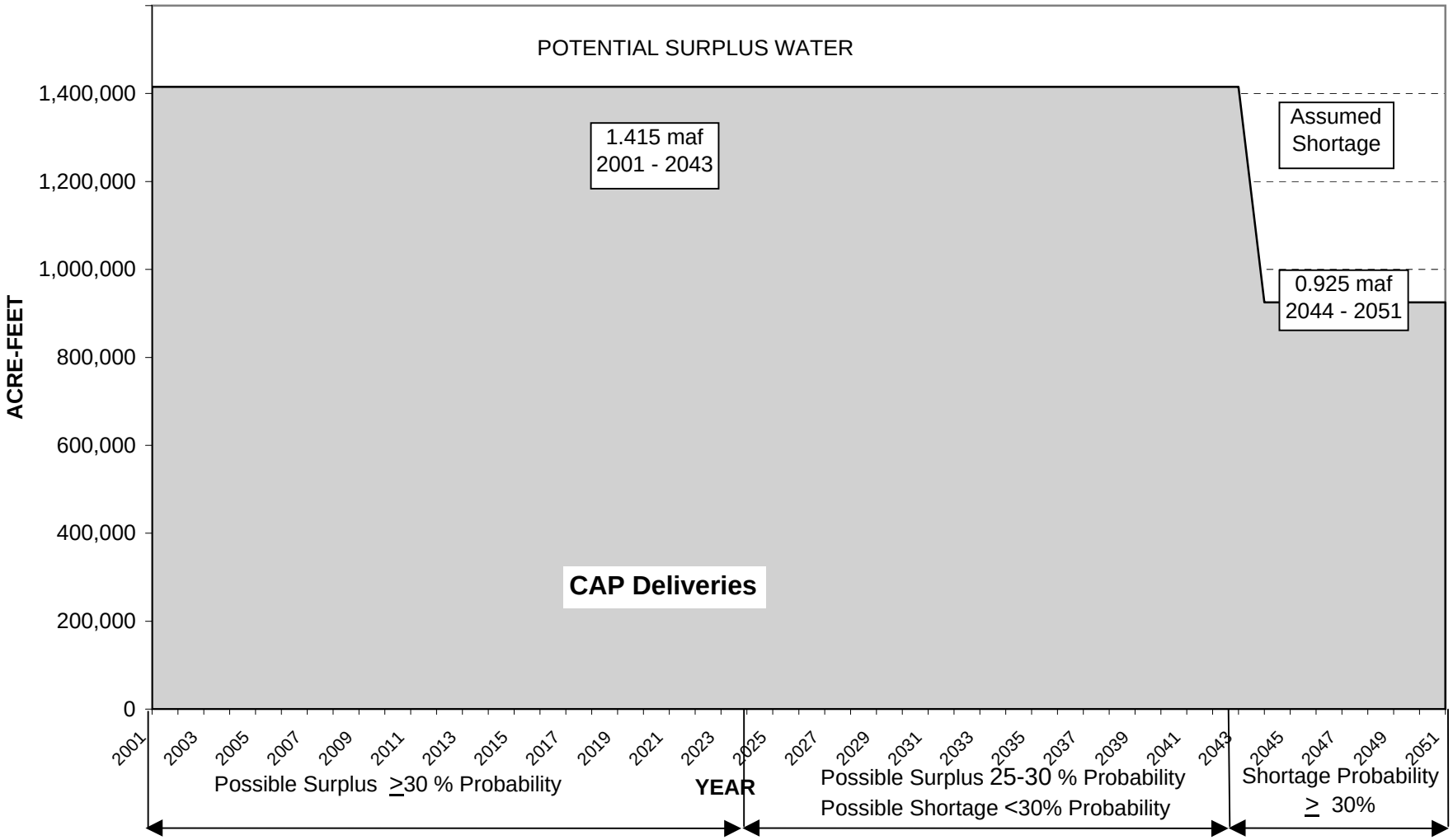

FIGURE A-2
CAP ALLOCATION DRAFT EIS
SETTLEMENT ALTERNATIVE - FULL CAP WATER SUPPLY DISTRIBUTION
(shortages not considered)

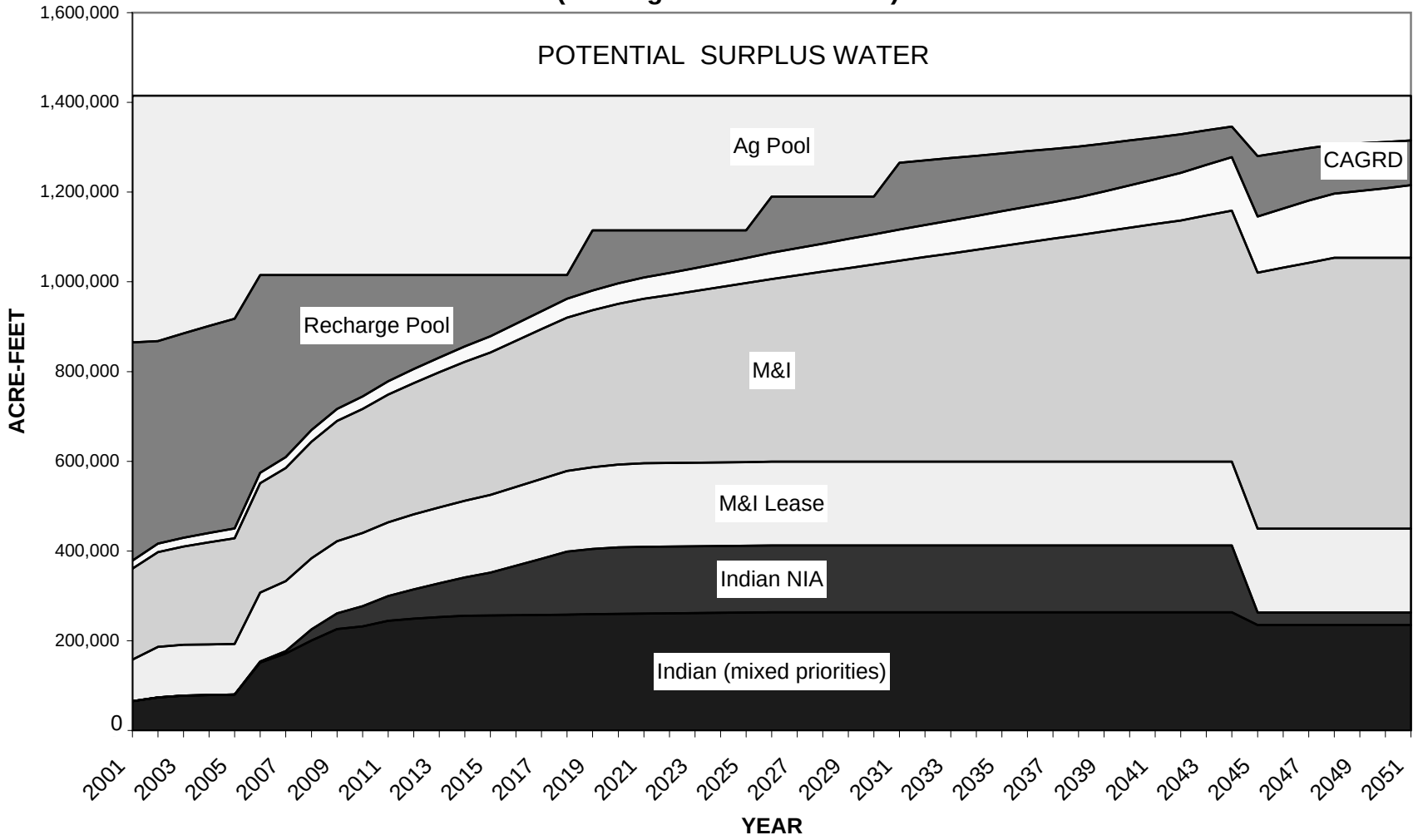

FIGURE A-3
CAP ALLOCATION DRAFT EIS
NO ACTION - FULL CAP WATER SUPPLY DISTRIBUTION
(shortages not considered)

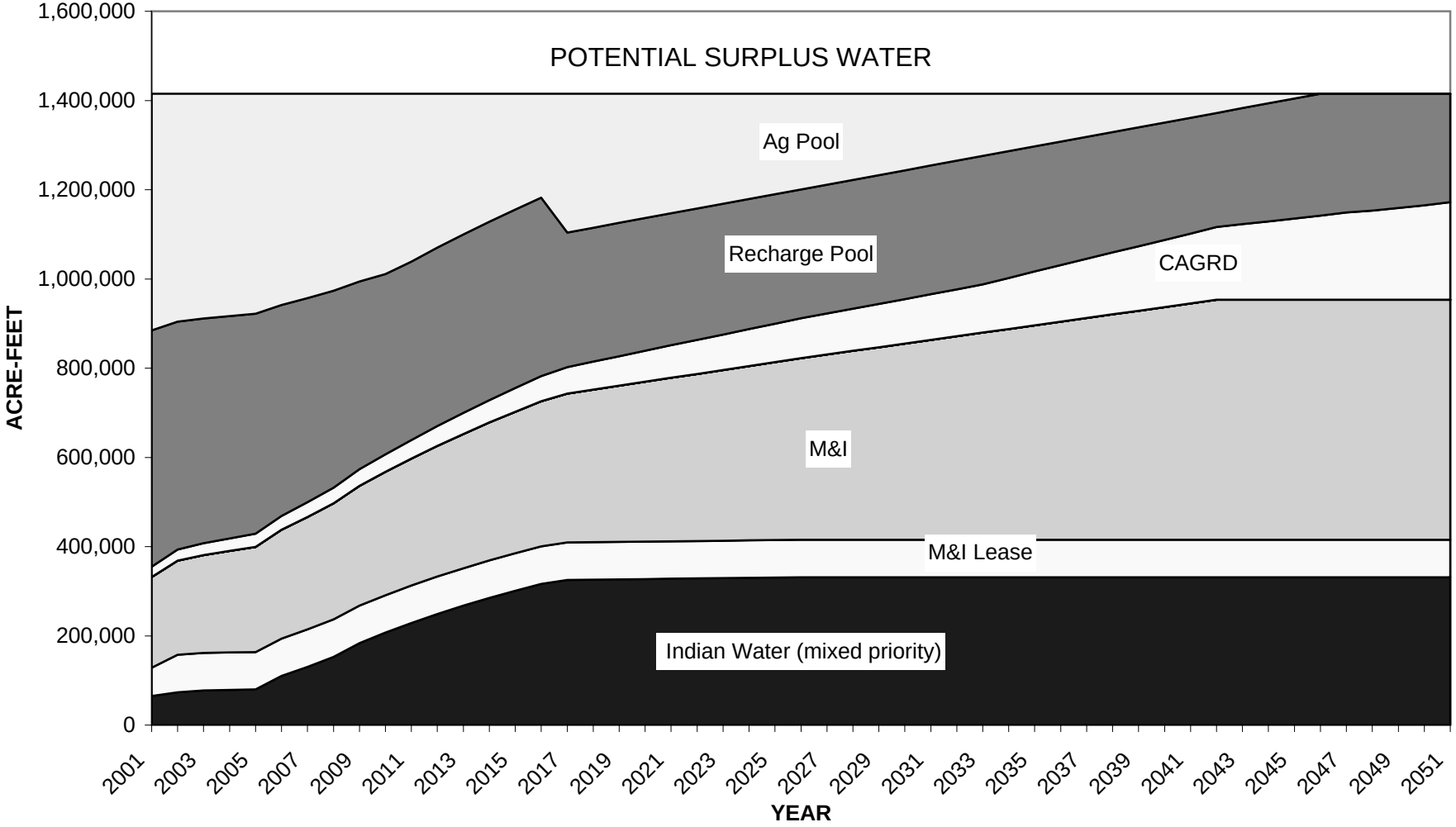

FIGURE A-4
CAP ALLOCATION DRAFT EIS
SETTLEMENT ALTERNATIVE - DISTRIBUTION OF CAP WATER DELIVERIES
(Shortage assumed for evaluation purposes)

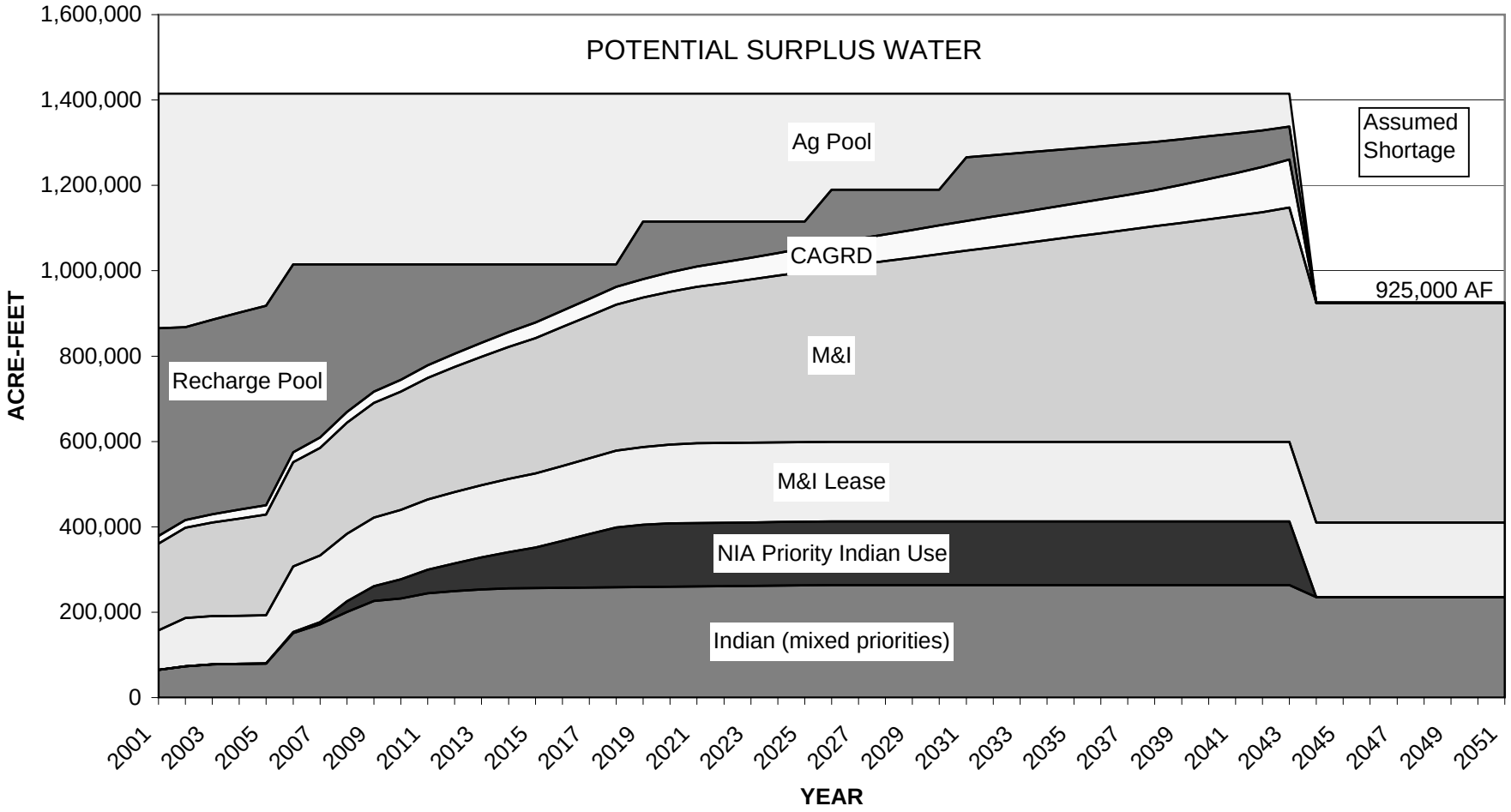

FIGURE A-5
CAP ALLOCATION DRAFT EIS
NO ACTION - DISTRIBUTION OF CAP WATER DELIVERIES
(Shortage assumed for evaluation purposes)

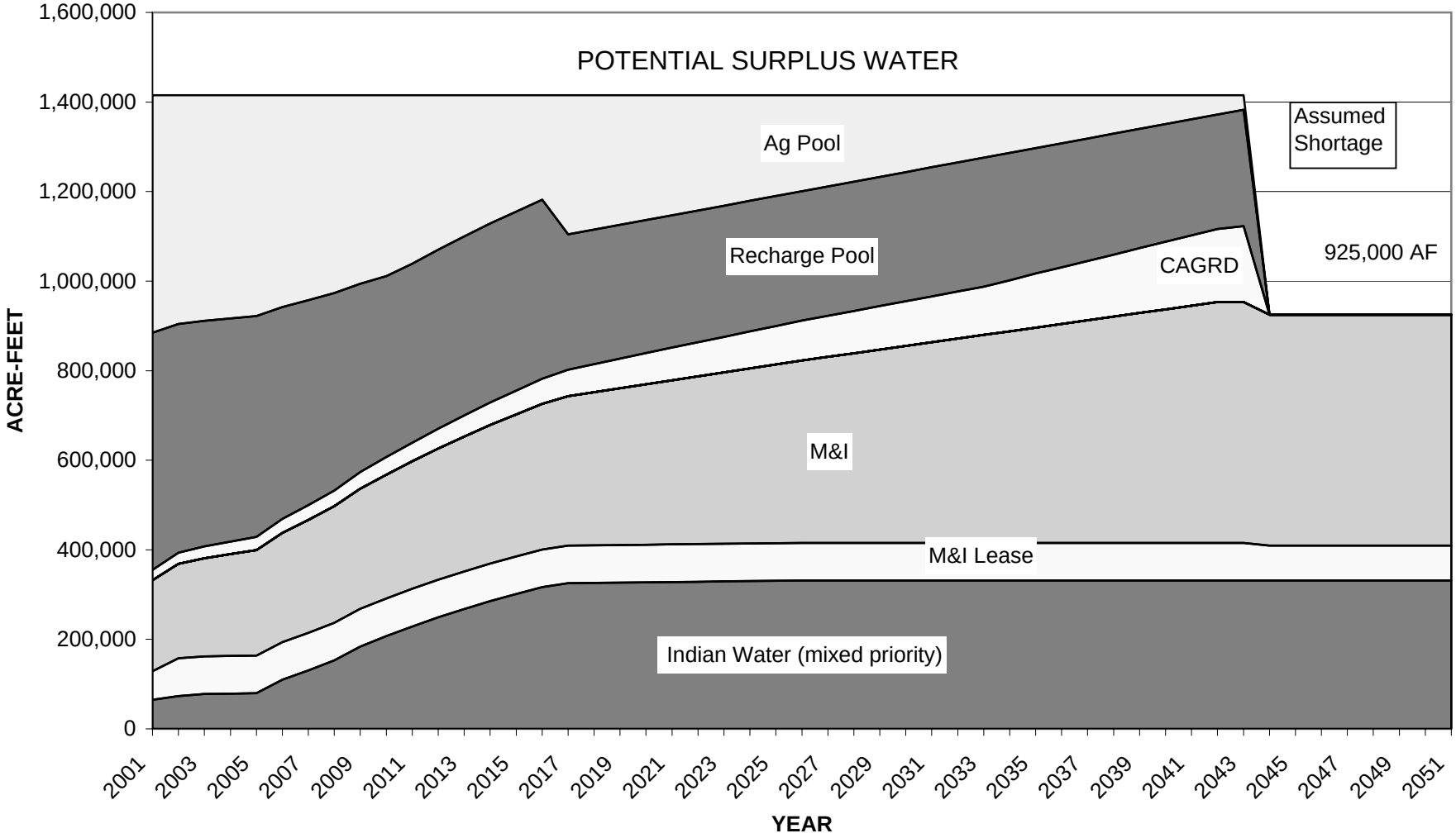

FIGURE A-6
CAP ALLOCATION DRAFT EIS
ALTERNATIVE 1 - DISTRIBUTION OF CAP WATER DELIVERIES
(Shortage assumed for evaluation purposes)

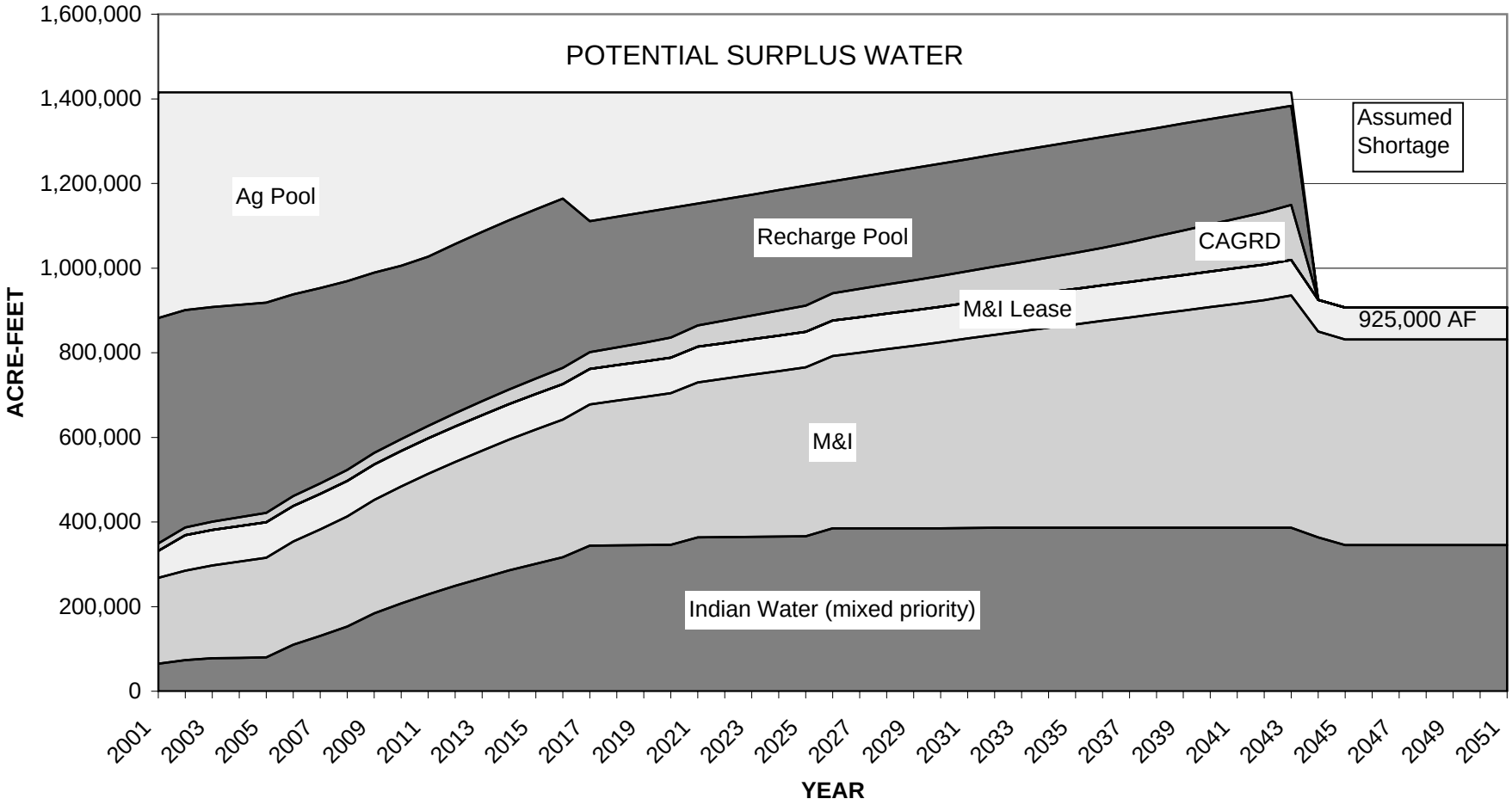

FIGURE A-7
CAP ALLOCATION DRAFT EIS
ALTERNATIVE 2 - DISTIBUTION OF CAP WATER DELIVERIES
(Shortage assumed for evaluation purposes)

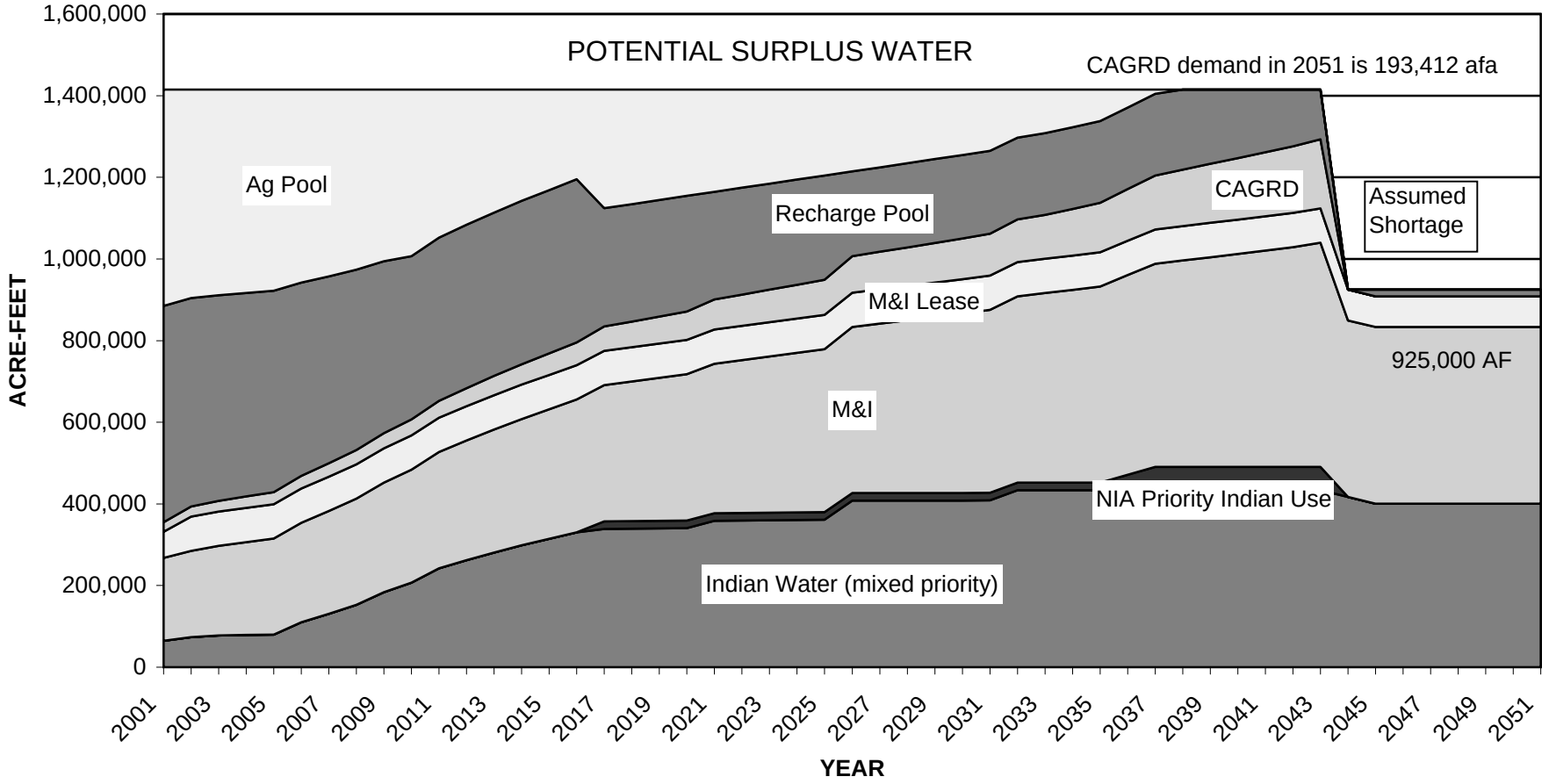

FIGURE A-8
CAP ALLOCATION DRAFT EIS
ALTERNATIVE 3 A - DISTRIBUTION OF CAP WATER DELIVERIES
(Shortage assumed for evaluation purposes)
(Assumes that NIA is contracted to NIA entities)

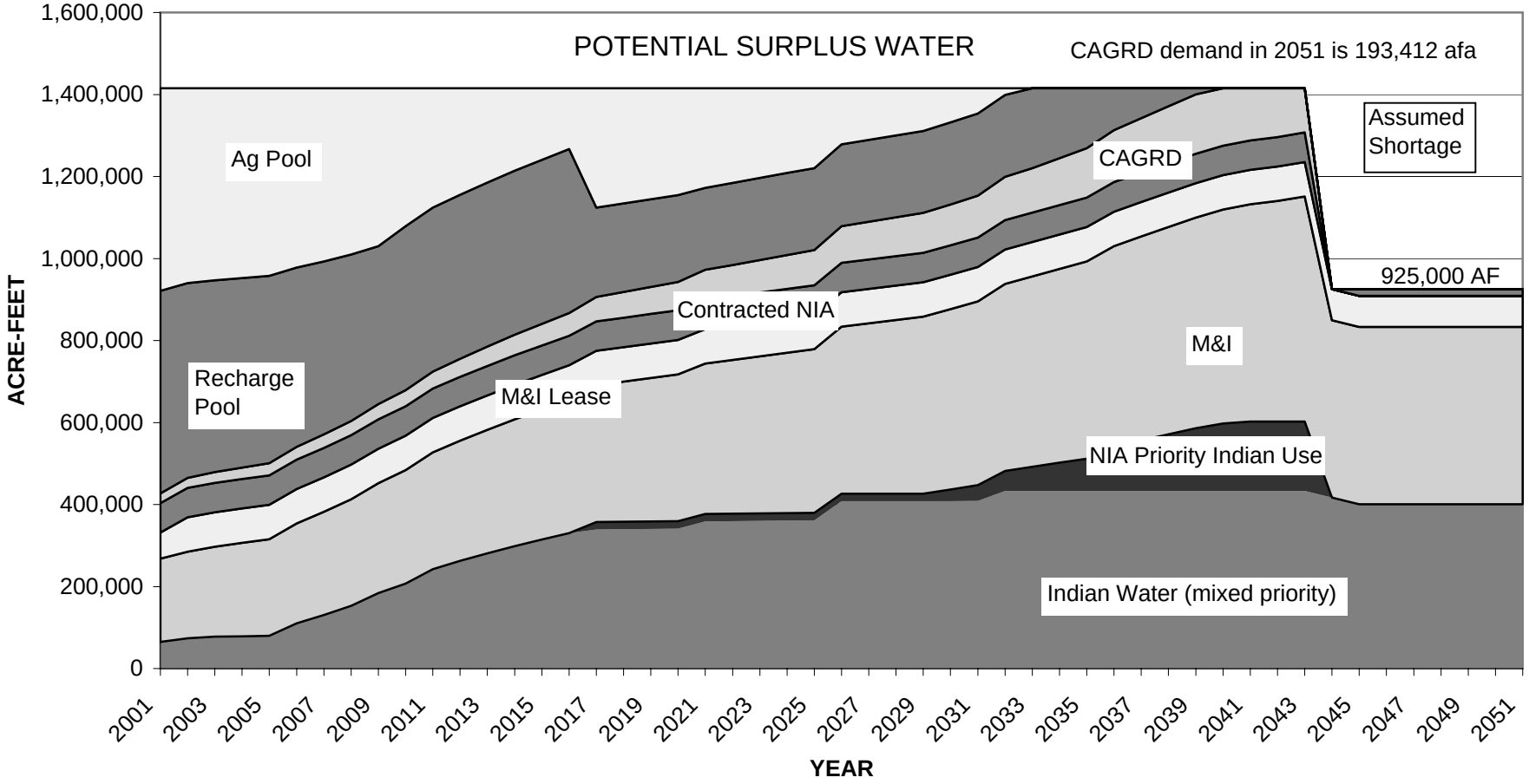

FIGURE A-9
CAP ALLOCATION DRAFT EIS
ALTERNATIVE 3 B - DISTRIBUTION OF CAP WATER DELIVERIES
(Shortage assumed for evaluation purposes)
(Assumes that NIA is contracted to M&I entities)

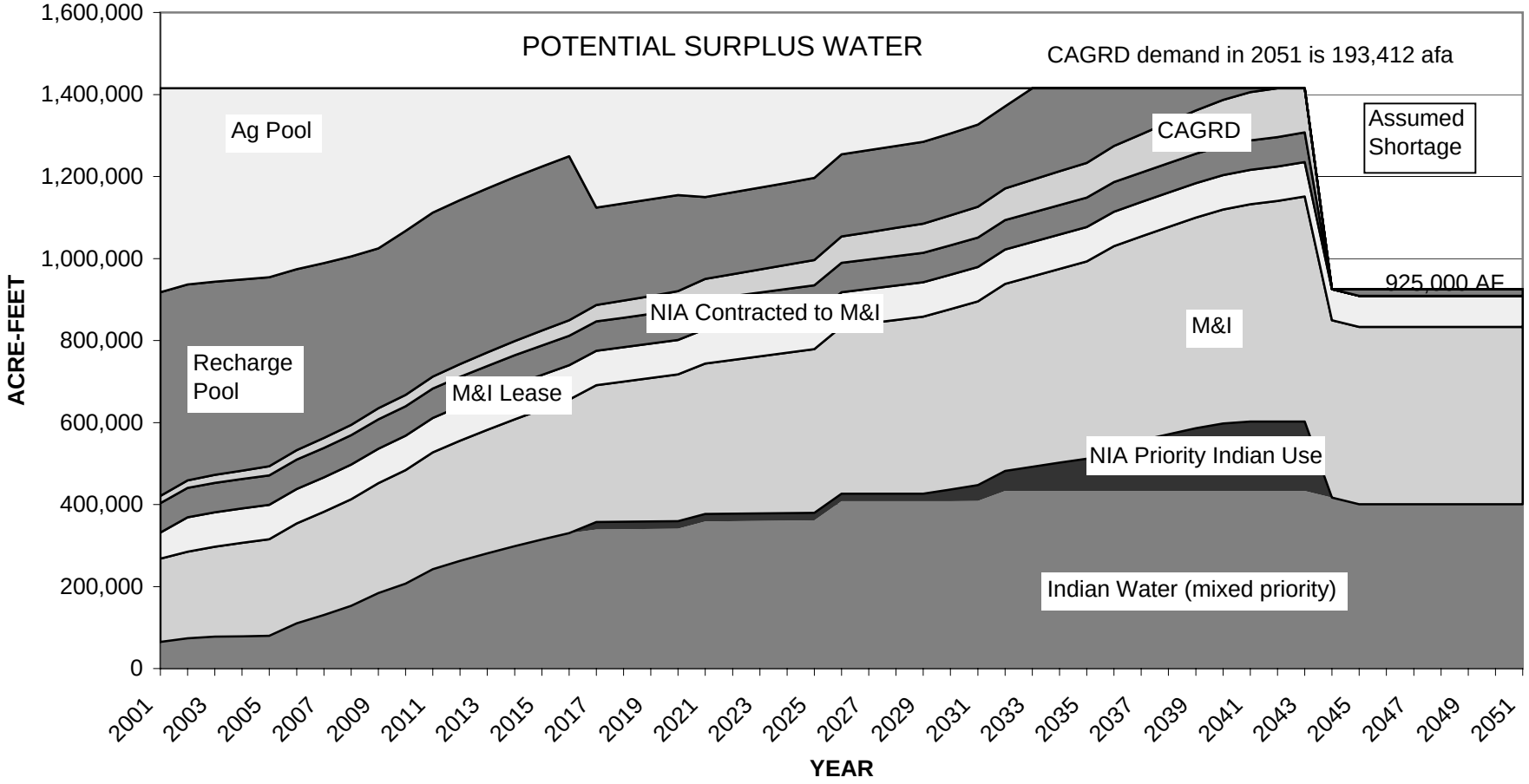

FIGURE A-10
CAP ALLOCATION DRAFT EIS
INDIAN BUILD OUT - ON RESERVATION USE BY ALTERNATIVE
(Does not include impact of shortages)